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ABSTRACT

This document contains descriptions of 13 projects undertaker through the Hilroy Fellowship Program in Canada in 1969-70. The stated aim of the program is to encourage and reward classroom teachers who are developing new ideas for the improvement of teaching practices. Each project description contains the following information: (1) the name and address of the teacher; (2) the name and address of the school; (3) a review of the project including the title, purpose, age, and significant characteristics of the pupils, procedures followed, modifications, source or resource materials, and evaluation procedures used; and (4) general comments about the project. Many of the projects have in common an emphasis on individualized learning, field trips, student-initiated work and discussion, and the provision of enriching experiences for disadvantaged students. The projects deal with some of the following areas: pollution and conservation, language development in a culturally deprived area, science education, Canadian history, film,and drama. (CD)

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INNOVATIONS IN TEACHING

13 Projects

of the Hilroy Fellowship Program

1969-70

SP 009 928

administered by:
The Canadian Teachers' Federation Trust Fund
320 Queen St.
Ottawa 4, Ont.

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THE HILROY FELLOWSHIP PROGRAM

FOREWORD:

The Hilroy Fellowship Program was established in 1969 by the Roy C. Hill Charitable Foundation and is administered by the Canadian Teachers' Federation Trust Fund. The aim of the Program is to encourage and reward active classroom teachers who are developing new ideas for the improvement of teaching practices.

Teachers who are working at any level in an elementary or secondary school and who are devising new methods, new approaches or new teaching devices, are invited to apply for Fellowships. Small groups of teachers working as a team under the chairmanship of a coordinator are also eligible. Application forms and related instructions may be obtained from the Secretary-Treasurer, CTF Trust Fund, c/o Canadian Teachers' Federation, 320 Queen Street, Ottawa 4, Ontario or from Provincial or Territorial Teachers' Organizations. Applications may be in either English or French.

In each province a Provincial Advisory Council reviews applications and makes recommendations which are forwarded to the National Advisory Council. It, in turn, makes recommendations to the Roy C. Hill Charitable Foundation which makes the final selections.

Hilroy Fellowships are intended to reward the initiative and the professional enterprise of the classroom teacher and to make some contribution toward out-of-pocket expenses in the development of experimental and innovative approaches. It is not necessary, however, that expenses of any kind be involved. Generally speaking, the amount of each award is in the range from $800 to $1,500.

Payment of awards is made in three instalments, the first at the time of approval of the award, the second and third on the receipt of satisfactory interim and final reports on the implementation of the project. A Hilroy Fellowship Certificate is also awarded at the time of the third payment.

While the stated purpose of the Hilroy Fellowship Program is to encourage and reward the innovative classroom teacher, it may be considered to have a more out-reaching objective — namely, the fostering of improved teaching practices for the general improvement of education. In keeping with this objective, this publication is a compilation of the reports of innovative projects by classroom teachers, projects for which the innovators have been judged worthy of recognition by the award of a Hilroy Fellowship in the school year 1969-70. It is hoped that this publication will have a wide circulation, that many teachers will benefit from projects reported upon, and that these reports will encourage other teachers to experiment and to innovate.

LE PLAN DE BOURSES HILROY

AVANT-PROPOS:

Le Plan de bourses Hilroy a été établi en 1969 par la Fondation de bienfaisance Roy C. Hill et est présentement administré par le Fonds fiduciaire de la Fédération canadienne des enseignants. Le but de ce plan est d'encourager et récompenser les enseignants qui, au cours de leur enseignement, développent de nouvelles idées en vue d'améliorer les méthodes d'enseignement.

Les professeurs tant du niveau primaire que du secondaire, qui projettent de nouvelles méthodes, de nouveaux moyens ou de nouvelles techniques d'enseignement sont invités à faire la demande pour une bourse. Des équipes d'enseignants, groupant cinq ou six professeurs, sous la présidence d'un coordonnateur sont également éligibles. Des formules d'inscription et les instructions détaillées peuvent être obtenues en écrivant au Secrétaire-trésorier, Le Fonds fiduciaire de la FCE, a/s de la Fédération canadienne des enseignants, 320, rue Queen, Ottawa 4, Ontario, ou l'Organisation provinciale ou territoriale. Les formulaires de demande peuvent être obtenus en anglais ou français.

Dans chaque province, un Conseil consultatif provincial examine les propositions, fait les recommandations et les envoie au Conseil consultatif national. Ce dernier fait les recommandations à la Fondation de bienfaisance Roy C. Hill qui fait la sélection finale.

Le Plan de bourses Hilroy veut récompenser les professeurs pour l'initiative et l'esprit professionnel qu'ils ont développés en menant à bonne fin une importante innovation en éducation; il veut également contribuer au coût des dépenses que représente le développement de techniques expérimentales. Cependant, il n'est pas nécessaire qu'aucune dépense soit encourue pour le projet. D'une manière générale, le montant de chaque récompense varie entre $800 et $1,500.

Le paiement des subventions est fait en trois versements, le premier au moment du décernement de la bourse, les deux autres sont faits lorsque le rapport intérimaire et le rapport final sont mis à exécution. Un certificat d'associé Hilroy est également attribué lorsque le dernier paiement est fait.

Comme indiqué plus haut, le but principal du Plan Hilroy est d'encourager et récompenser l'initiative des professeurs de classe. Ce projet a également un but plus définitif, c'est-à-dire, d'innover de nouvelles méthodes d'enseignement pour le progrès de l'éducation. Gardant cet objectif en tête, ce volume est un recueil de tous les rapports expérimentés par des enseignants, projets qui ont été jugés dignes de reconnaissance du Plan Hilroy pour l'année scolaire 1969-70. Nous espérons que cette publication circulera partout, que tous les professeurs bénéficieront de ces idées nouvelles, et que ces rapports encourageront d'autres instituteurs à expérimenter de nouvelles méthodes.

HILROY FELLOWSHIP PROJECT 1

1. Name and home address of teacher:

   Jack H. Wainwright,
   2920 East 56th Avenue,
   Vancouver 16, B.C.

2. Name and address of school:

   Cecil Rhodes Elementary School,
   1166 West 14th Avenue,
   Vancouver 9, B.C.

3. Review of Project

   (a) Title:

   POLLUTION AND CONSERVATION: A SCIENCE UNIT FOR INTERMEDIATE GRADES

   (b) Purpose:

   This is an attempt to involve children in a meaningful study of their own ecosystem.

   (c) Age and other significant characteristics of pupils:

   This unit was undertaken by all 120 grade five, six and seven students at Cecil Rhodes School. Ages ranged from 10 to 15 years. This school services an older section of Vancouver where slum type dwellings are slowly being replaced by apartments and warehouses. It also draws a few students from the wealthy Old Shaughnessy district. Less than 25% live in single family dwellings and over 50% are single parent families. Many children have learning difficulties and some are emotionally disturbed. The school also draws from a number of residential treatment centres attempting to rehabilitate deprived children.

   (d) Procedures followed (from inception until end of school year):

   This unit has been developed in three parts. Phase I asked the basic question "can you maintain a community"? This forced students to research the conditions necessary to support some particular plant and animal combinations. Actually maintaining a community allowed them to put theory into practice. Phase II was a controlled experiment building upon knowledge gained in Phase I. Here we tested the effects of pollution on the initial plants and animals of the food chain.

our theses being that what ever affected these organisms would affect all living things either through starvation or direct poisoning. While Phases I and II developed our knowledge of ecology and pollution, Phase III was designed to use this knowledge in a survey of our own district. This time the topics were limited to one area of pollution per group and an in-depth study of our own problems and the way in which they could be controlled was initiated. Most lessons opened with a short (10 min.) lecture-discussion about some pertinent topic. Students made their own notes. Students used the rest of the period, about 30 min., to research, experiment, plan, discuss and confer with resource people either by direct contact or by phone. We laid ground rules for contacting resource people. Before students could use the phone, they had to write down the questions they wished answered and then confer with the teacher to see whether they were appropriate or naive. They then had to research in the yellow pages to find a resource to phone and again, gain approval. We were very strict about avoiding nuisance use of the phone. Industry we found, was most willing to cooperate. Government agencies were the most difficult to gain satisfaction from. Many questions were answered directly and many resulted in mini-trips.

A "mini-trip" is our term for a field trip taken by a small group during school hours and not necessarily under adult supervision. Mini-trips were normally limited to one per student for this project. They were normally planned by a group with a teacher consultant and then set up by phone. Students then wrote notes to their parents outlining when, why and where they wished to go. If the notes were brought back signed, the teacher signed them and made arrangements for early dismissal from school. Transportation and all expenses were left up to the student and it was strongly suggested that they talk a parent into driving them. Upon returning from a mini-trip of any consequence the group was expected to make a five minute presentation to the class.

Our school library was available at any time and public libraries were not inaccessible after school and Saturday. Unfortunately, a newspaper strike severely hampered our getting immediate printed reports of current pollution problems. TV and radio reports did provide the information but not in a permanent form. Students displayed marked variances in the methods they preferred to research topics.

Some relied primarily on printed matter, others on personal contact. Some preferred film while others did no research but observed and recorded happenings in detail.

Phase I — Can you maintain a community?

We established through class discussion that a community is plants and animals living in some sort of harmony or balance. We listed the various communities available to our classes by naming the animal. Ours were: insects — ants, centipedes, sowbugs, beetles, worms, crabs; fishes — salt-water sculpins and sticklebacks; starfish, snails, salamanders, frogs, newts, tadpoles, birds, bats, mice and rats. We also listed exotics such as gerbils, hamsters, guinea pigs, tropical fish and gold fish. For the first few periods we researched and discussed the ways in which we could attempt to maintain these animals in the classroom.

We discussed the basic needs of man and related these to other animals' needs — food and water, shelter (protection from enemies, warmth), love. Aquariums and cages were made, scrounged and bought.

Students could work as individuals or in groups of up to four or five but everyone had to be involved in keeping their community alive. We set a two week limit after which we would return the animals. The class, as can be imagined, was a beehive of activity. Students arrived early and stayed late. Students were expected to keep a complete record of their activities.

The room saw the following animals kept: gerbils, mice, hamsters, tadpoles, newts, salamanders, turtles, tropical fish, iguana, crayfish, crabs, worms, goldfish, molds, pondwater, millipedes, freshwater snails and mealworms. One boy wandered around areas where he knew ants should be found. It took him a few days to realize it was too cold for them to be above ground yet. Students who managed to keep their community alive for two weeks had only to record everything they did. Those who failed to maintain the community had to not only record what they did but come up with an hypothesis for what went wrong.

Disaster struck frequently and often as students violated fundamental laws. Most frequent violations were overfeeding,

wrong foods, sudden temperature changes, lack of water and mixing animals. Mixing animals often resulted in hostility and aggression. A few gerbils were lost this way.

Lessons were built around disasters as they occurred. The owners gave an account of what they had done and their hypothesis of why their animals died. The class then discussed the problem and ratified or disputed the solution. It was amazing how many times the word "pollution" cropped up.

Incidental to maintaining a community is the research on the structure of the animals and the observation of behaviours. Students learned the sex life and development of each animal they worked with. The eating methods and preferred foods were noted. Special structures like the breathing apparatus and modified appendages of crayfish and crabs were also discovered.

Students gained significant knowledge about the delicate balance of nature and the relatively narrow range of tolerance animals have.

The only plants that did not survive as part of a community were the seaweeds. Their death was a cause of pollution resulting in further deaths. This sort of chain reaction was most evident in aquatic environments.

Phase I established a working knowledge of pollution. Our discussions and disasters provided us with a common terminology and reference points.

We then faced the class with the question "If you were to attempt to determine the effects of pollution on life, where would your efforts have the most widespread effects?" Students were encouraged to reflect on the foods of animals. Finally, they decided that plankton and green algae constituted the beginnings of the food chain. This was immediately followed with a film on ecology outlining the food chains as biologists saw them.

Phase II made use of the controlled experiment idea. Each student set up a test tube with pond water in it. We had attempted to get microscopes for this unit so we could delve into the mysteries of pond life as we studied the effects of our deliberately polluting them. However, as microscopes were not available at that time, we settled on using the largest

most abundant animal in our pond water as our reference. This turned out to be an interesting crustacean called Cyclops. Everyone set up one test tube with three or four Cyclops in it. Students grouped in four's or five's and pooled their test tubes. One tube was designated as the control to which nothing would be added. Other tubes were coded and polluted in a controlled manner with commonly found materials. An attempt was made to work out parts per million. This was not difficult to work out with liquids where drops could be counted, but solids and gases were beyond us. Liquids and solids were dropped in the test tubes. Gases were caught in plastic bags and bubbled through the pond water with a straw. Test tubes of each group were bundled together with an elastic and set in a plastic tub so that all tubes received the same conditions with the exception of the added pollutants. In other words, we did our best to ensure that there was only one variable.

We found that pond life will survive a long time in a test tube. Our controls remained viable throughout the experiment. We did not get any appreciable difference in algae growth in any test tube but that was due to the short time given to the experiment. Those test tubes still around three weeks to a month after the experiment did show a difference. We also kept baby guppies in test tubes eight weeks. However, shortly after, the water turned very green, the fish died. We had thought someone would want to determine the effects of pollution on fish but our efforts in attempting to maintain life in Phase I were so disaster ridden that it seemed pointless to deliberately pollute these. The pond water was kept in 16 mm. x 160 mm. test tubes and the guppies were kept in 25 mm. x 200 mm. test tubes.

Data tables were drawn up by each group and a "class results" summary was developed on the board. Results generally were not surprising as all the cyclops died in the polluted tubes every time but one. (All controls remained alive.) The one exception was the result of polluting the water with some "rotten fish" (test tube No. 4). This created a population explosion among the cyclops. The term "enrichment" now had some meaning. The class was split as to whether this should be called pollution or not. After all, didn't pollution mean that things died?

The next lesson reviewed the evidence of test tube No. 4 and cited the problem facing the Okanagan Valley in B.C. With atlases we determined the rainfall, climate and number of rivers supplying the chain of lakes. The number and size of cities were noted and the principal industries (orchards, breweries and tourists) were discussed.

One of these lakes (Skaha) is very important to the tourist industry but in the last few years it has come into prominance because of a "bloom" or excess growth of algae that lowers the oxygen supply at night. This causes death of fish which results in a chain reaction much the same as happens in a seaweed and fish aquarium. Students speculated on the cause before they were told the following: biologists tell us the cause is pollution in the form of fertilizers — from cities as sewage and detergents, from breweries as organic matter and from orchards as a result of leaching.

Students then were asked how they would rectify the situation. Having mulled the question over they came up with the same answers as the biologists. Create better sewage treatment plants and control the effluent from breweries. It took them a long time to devise the controversial scheme to flush out the present waters by diverting water from the Shuswap Lake. This is controversial because it would rob the Fraser River of water and add it to the Columbia River. The Fraser is the last large salmon river still producing and joining the two rivers may introduce harmful species or disease.

With the atlases we also looked at Puget Sound, the Gulf of Georgia and the lower Fraser. Cities and industries were named. Students mentioned instances of pollution that they had heard. We speculated on how long we could use our beaches before the whole area became polluted. The Great Lakes were looked at in the same vein.

Mention was made of the town of Hudson Hope, B.C., where it is reported that the sewage outlet is upstream from the water intake. At first it seemed ridiculous that such a mistake should be made but on second thought, why shouldn't a polluter reap the benefit of his own waste. And won't the townspeople move a little faster now to treat their sewage? We thought maybe the arrangement should become law for all new municipalities.

Phase III was a major survey of our own community. We learned about the delicate balance of nature in Phase I. Phase II showed us the effects of commonly discarded materials on life and we had speculated on the fate that awaits us. Now questions arose from the class — Where does our sewage go? Have we pollution here? How do you control smoke, etc.? — As questions flooded the room we categorized them as belonging to certain areas. Our headings were:

i. Plant types: Choose an area of the school district, diagram it, collect samples of the plants in the area, preserve them. Identify the plants, determine their origin and how they got there. Conclusion: There is not a square foot of ground in our school district that has not been dug over by man. With the exception of weeds, all the plants had been planted by man, many of them imported from other countries.

ii. Planted areas vs built up areas: Choose a square block in the school district. Work out the percentage of planted area to non-planted area (blacktop, buildings, etc). Research: What is a heat inversion? What is smog? Where do heat inversions occur? How do temperatures vary between blacktop, grass, etc.? If you were planning a city, what would you do to help control heat? What is Vancouver doing? Conclusion: Heat inversions occur over cities and trap industrial waste as smog. Cities can minimize this build-up by creating green belts and requiring a certain percentage of planted areas in new developments. Vancouver does not seem too aware of the situation, although the Parks Board works hard at increasing planted areas and new developments must have a "set back".

iii. Animals: Choose an area and take a census of some animal living there. Do this in a number of places in the city. Do the counts vary? Why? Try counting the number of birds on various street corners or the number of crabs under rocks at various beaches or insects under boards in the back lanes. Conclusion: Animal populations vary according to the availability of food and shelter. Sometimes it is man's work that has destroyed these places.

sometimes man's work increases them (e.g. pigeon populations).

iv. Sound: Measure the strength of sounds. Build a decibal counter from a microphone, voltmeter, nine volt drycell and if necessary a capacitor. Stronger sound waves give higher readings on the voltmeter. Calibrate it. Record sounds in the community, especially at the airport. (Read the article in Feb., 1970 Reader's Digest on sound.) Conclusion: Loud sudden sounds or ones especially prolonged are damaging. We had a high school teacher build our counter and a grade four student used it for his project.

v. Water: Where does our water come from? Where does our sewage go? How is sewage treated? What is a coliform count? We found this area was too broad so students elected to take sections of it. Some traced our water system, others the sewage system including the treatment plant. Some concentrated on polluted beaches. One group undertook to identify the polluters of the local salt water bay (False Creek).

vi. Air: (a) Take a vacuum, hold filter paper over the intake (you may need a piece of screening on first) let it run for 10 min. Is there any change of colour? What is dust, where does it come from? Sample the air in various localities and at various levels. How can we control dust? Try filter paper on auto exhausts too.

(b) What are the sources of gases in the atmosphere? What harm can they do? (NO_2 SO_2 H_2S CO_2) Why do some smelters and pulp mills provide free car washes? Can you make these gases in the science room? What do they smell like? What is an aerosol? Conclusion: Air is to man what water is to fish. When our air becomes polluted, we cannot escape. Local ordinances do not help if neighbouring municipalities do not impose controls too. Aerosols, gases and dusts hold the most potential threat to mankind.

vii. Soils: How are soils made? Take two jars filled with layers of leaves and grass. Sterilize one in an oven (until it is heated to 250F in the centre — use a meat thermometer). Seal both with plastic and leave. What changes occur? Why? What conditions speed the process? How would fungicides affect the process? What is pH? How do soils differ? What are our soils like?

viii. Foods? What pesticides may be found in foods? We investigated processes for analysing pesticides in a quantitative way but found the initial procedures were beyond elementary school students although a competent biology student could do it with the proper equipment. Procedures are available from the Federal Food and Drug Department. Although we could not do the experiment, we researched both pesticides and food additives. One group came up with a comprehensive and enlightening report after visiting the Food and Drug Laboratory (other students just about swore off food).

ix. Garbage: What is garbage? Collect and classify garbage from an empty lot or along a roadside. Devise an automatic disposal system for homes. Devise a way to automatically reclaim materials from garbage. Conclusion: Garbage is solid waste that can be classified as metallic, inorganic (rock, glass, plaster, etc.) degradeable organic as animal, plant and paper, long lasting organic as plastics. Garbage disappears as its value increases. Suggestion: Set up depots and make it economically feasible to return all garbage if sorted. Some people would make a living out of it and scrounge more than just the beer bottles they collect now.

x. Aesthetic: Record the beauty of Vancouver on film and with sketches. How do overhead wires and billboards affect our view and our senses? Who would you award prizes to as being thoughtful in their advertising or building? Who would come last? How do back lanes compare with the front of the buildings? How would you control the aesthetics of Vancouver? How does the city do it?

(e) Modifications:

Students were to produce a short written report and a display. It was our idea to compile a booklet on pollution in our school district. As the unit progressed, however, it became evident that not all topics would lend themselves to this rigid format. Consequently, we allowed modifications with prior approval. The summary did not materialize. However, the displays were good and went on view for the parents. One particularly artistic panel was chosen as the school entry in an art contest. Others are slated for the science fair to be held in the fall.

(f) References:

1. "Our Polluted Planet", 1968, Ambassador College Research Dept., Ambassador College Press, Pasadena, California.
2. "Scientific Experiments in Environmental Pollution", E. C. Weaver, Holt Rinehart & Winston, Inc., New York, Toronto.
3. "Air Pollution Experiments", High School Edition, 1967, Coordinator & Editor, Joseph J. Soporowski Jr., Dept. of Environmental Sciences, Rutgers University, New Jersey.
4. "Air Pollution and Weather", Meteorological Branch, Dept. of Transport, Canada.
5. "Phosphate Analyses", S.P.E.C. (Society for Pollution and Environmental Control), 44 West 6th Ave., Vancouver 10, B.C.
6. "Pesticides — Can we Live Without Them?", S.P.E.C., Vancouver.
7. "Fact Sheet — Offshore Drilling", S.P.E.C., Vancouver.
8. "Fact Sheet — Tankers", S.P.E.C., Vancouver.
9. "S.P.E.C. Rejects Trail Horse — Kill Results — Requests N.R.C. Probe", S.P.E.C., Vancouver.
10. "Submission to the B.C. Pollution Control Board, Subject: Automative Air Pollution", S.P.E.C., Vancouver.

11. "Pollution! A Survey of Air and Water Pollution Problems in B.C.", Arnie Myers, Medical Reporter, The Vancouver Sun, Vancouver, B.C.

12. "Endangered Wildlife in Canada", Canadian Wildlife Federation, 1419 Carling Ave., Ottawa.

(g) Evaluation procedures used:

1. Open book exams on "factual" material, general knowledge gained by all through their experiments and class discussions.

2. All students were required to keep daily diaries as a record of what they were doing. These were used to evaluate growth in the processes.

3. Students were required to keep a summary of their research findings and write up a report of their experiments outlining what they had done, what they found out, what the possible causes might be and where they may have made an error. These were also used to evaluate growth.

4. Finally, teacher notes were kept of the student attitudes, displayed during the various phases of the unit. (Enthusiasm, boredom.)

4. General Comments

I will use this unit again but will modify the approach to incorporate more structure. I thought I had carefully nurtured independence in thought and action so that all students could work independently and so operated the unit with a "Nuffield" approach. However, I found that 25% of the students could not handle the freedom and with others demanding attention, it was quite easy for the slackers to remain undetected for too long. In future, I will set a specific project for them, complete with directions, but left open ended enough so that when they show they are willing to progress beyond the instructions and think for themselves, they can move on the unstructured approach. Those students who were successful showed a growth and displayed a maturity seldom encountered with other methods.

HILROY FELLOWSHIP PROJECT 2

1. Name and home address of teacher:

   Sister Mary E. Phillips,
   Box 74, Faust, Alberta.

2. Name and home address of school:

   Faust School,
   Faust, Alberta.

3. Review of Project

   (a) Title:

   LANGUAGE DEVELOPMENT IN A CULTURALLY DEPRIVED AREA

   (b) Purpose:

   Increase of vocabulary both quantitatively and qualitatively; correction of speech.

   (c) Age and other significant characteristics of pupils:

   Fifteen Grade One children, Indian and Metis, CA 5^6 to 7^6 in the Faust School.

   (d) Procedures followed (from inception until end of school year):

   i. Testing of children:

   — WISC vocabulary test administered.

   — Each child was interviewed individually, following a standardized form and his responses taped. The children were shown two pictures and asked to discuss what they saw in each picture and what they thought of each picture. Responses were analyzed according to the method used in the Loban study.

   ii. The children were then exposed to a large number of quality experiences (concrete); during the first three months these were within the school and home community and during the last month farther afield.

   The experiences were accompanied by an intensified language arts program and the use of a Language Master, a programmed vocabulary builder which helped to correct speech patterns.

iii. Re-testing, June, 1970:

— WISC vocabulary test administered.

— The interviews were not repeated because the accent of the study had been concrete experiences and it was observed that as soon as a picture in which the children had not been involved was presented, the children immediately retreated to former speech patterns. It was evident that it would take more time to bring about change in a semi-abstract medium of communication. During a follow-up in September, slides taken of the children's surroundings will be used.

(e) Modifications:

i. Change in testing procedure.

ii. Late arrival of equipment halted the progress of the study and also its length — four months instead of six.

(f) Source or resource materials:

A Sony videotape recorder was purchased because rental rates were exorbitant. The cost was $1,460 plus tapes. A Language Master was borrowed.

(g) Evaluation procedures used:

The raw scores obtained on the two tests (pre-test and post-test) were converted to scaled scores to take care of the normal growth in language which would take place during four months. The paired scores were analysed and the sign test for significance was used. (See Appendix.)

Of the fifteen students tested, fourteen showed a difference in one direction (+) and one showed no difference. No student showed a difference in the other direction (−).

Referring to Table A when $N = 14$ and x (number of fewer signs) $= 0$, the probability of this distribution of pluses and minuses is less than .001 (one-tailed).

The hypothesis (H_1) is accepted.

4. General comments

Many variables entered into this study. The fact that the children were

out of a classroom and were given the opportunity to investigate freely objects and experiences outside their own environment was one of two significant happenings. The second was the free environment in the classroom where, except during short periods of large group instruction, the children were permitted to talk.

There was marked improvement by the group which may be the beginning of overcoming the deprivation suffered by these students in earlier years. They do not yet compare with children in other rural areas. Side effects were the overcoming of shyness of seeing themselves on the videotape and of hearing their own voices on the language master.

One of the unforeseen outcomes of the study is the recognized necessity of studying Cree (by the teacher), not necessarily for communication but for an understanding of the structure of the language so that difficulties of students may be understood. Although Cree is not the language most often spoken by the children, Cree speech patterns affect the English spoken which becomes a non-standard type English. For example, in Cree one word is often a complete sentence. The language is built upon verbs and verbal or noun terminations. This affects English as spoken by children. They often use the verb in isolation and they do not translate the termination.

> Le verbe est la plus importante partie du discours dans la langue Crise. Il exprime non seulement l'action comme dans le cas du verbe français, e.g. sakihiwew — il aime, mais aussi exprime l'idée de sujet et de complément, e.g.: sakihew — il l'aime.
>
> Même l'idée de temps et l'étendue de l'action peuvent être inclues dans le verbe, e.g.: sakihiweskiw — il aime continuellement, sakihiwesiw — il aime un peu.
>
> Connaissant le verbe, il est possible d'exprimer toute pensée et toute action désirée. Cela ne veut pas dire qu'il faille négliger les autres parties du discours. Mais le vocabulaire ne servira à rien à moins de comprendre le verbe sous toutes ses formes.
>
> (Grammaire Crise — p.3)

In Cree, something is said precisely and time is given to think about it. In Cree, sufficient expression is enough, it does not need to be elaborated upon. The preciseness of the language has another aspect. In telling a story, the names of characters need never be used

after the introduction. The verbs are declined into eight persons, not six as in English. After the third person singular and plural there is a relative. These are so precise in variations and so definite in application, it is known to whom the person is referring without any further mention of a name. This fact has a carry-over into English for the children, in that they have great difficulty making a clear English statement except for short simple sentences.

The writer does not have sufficient knowledge of Cree to be able to pinpoint even a modest list of the difficulties of a child in learning English as a second language.

The above may suggest that in the primary grades in areas where another language is that from which speech patterns are derived, the teacher, or at least a teacher aide, should have a thorough knowledge of the differences between the two languages.

5. Conclusion

The study seems to show two points:

i. the need to have a basic understanding of the language of the child's home and

ii. the justification of the conclusions arrived at by Robinson and Makerji (1965) in their study of disadvantaged children in "Language Concepts and the Disadvantaged":

> Unless these children can enlarge their vocabularies through personally gleaned information, there seems little possibility for real progress in understanding. (p. 142)

Appendix

Student	Scaled Scores		Sign
	x1	*x2*	
A	4	7	+
B	7	12	+
C	3	5	+
D	10	14	+
E	4	6	+
F	5	8	+
G	8	10	+
H	2	3	+
I	4	6	+
J	6	9	+
K	8	10	+
L	5	9	+
M	6	7	+
N	5	7	+
O	8	8	0

N = 14
x = 0

The Sign Test

*Table of Probabilities Associated with Values as Small as Observed Values of X in the Binomal Test**

N \ X	0	1	2	3	4	5	6	7	8	9	10
5	.031	.188	.500	.812	.969	+					
10	.001	.011	.055	.172	.377	.623	.828	.945	.989	.999	+
11		.006	.033	.113	.274	.500	.726	.887	.967	.994	+
12		.003	.019	.073	.194	.387	.613	.806	.927	.981	.997
13		.002	.011	.046	.133	.291	.500	.709	.867	.954	.989
14		.001	.006	.029	.090	.212	.395	.605	.788	.910	.971
15			.004	.018	.059	.151	.304	.500	.696	.849	.941
16			.002	.011	.038	.105	.227	.402	.598	.773	.895

*Adapted from Table IV, B, of Walker, Helen and Lev., J., 1953, *Statistical Inference*, New York, Holt, p. 458.

HILROY FELLOWSHIP PROJECT 3

1. Name and home address of teacher:

   Sister Bernice Phyllis Kapuscinski,
   421, 21st Street East,
   Saskatoon, Saskatchewan.

2. Name and address of school:

   E. D. Feehan High School,
   Rusholme Road and Avenue M.,
   Saskatoon, Saskatchewan.

3. Review of Project

   (a) Title:

   A PROPOSAL DEALING WITH THE IMPROVEMENT OF SCIENCE EDUCATION IN SASKATCHEWAN

   (b) Purpose:

   To study various regions in Saskatchewan and to prepare audio-visual materials of these regions so that the materials could be used as aids for classroom learning in grade 8 earth science, grade ten geography, and grades eleven and twelve biology. Teams carrying out the project consist of teachers, pupils, and a technical assistant.

   (c) Age and other significant characteristics of pupils:

   This project has involved pupils aged from 13 to 18 years. The pupils were chosen on the basis of their own enthusiasm and interest. They did not have to be enrolled in science classes in order to participate, as some wished to contribute their artistic and other talents to the project. Several of the senior boys participated in the project because they were interested in conservation and natural resources technology, as careers.

   (d) Procedures followed (from inception until end of school year):

   i. One group of pupils made three field trips to Beaver Creek; that is, two in May and one in June. The group produced ten super-8 films, 140 slides and several enlarged black and white photographs; they also made collections of plants, insects, and other specimens of the area.

ii. One group of students made a two-day field trip to Emma Lake, an area in northern Saskatchewan. The group produced six super-8 films and about 140 slides involving the biological aspect of the area; i.e., insect life and a thorough study of ecological succession in the area. The pupils also made a comprehensive plant collection and a small insect collection. In this project there was considerably more pupil involvement.

iii. One group of students participated in an outdoor education excursion sponsored by the physical education department from June 15 to 19. This group returned with a plant collection from the Candle Lake area.

(e) Modifications:

i. Some pupils have suggested areas of study, e.g., ecological succession in the Dundurn area.

ii. One field trip, i.e., to Cypress Hills, has been postponed to the summer vacation period. This modification was decided upon because we wanted to co-ordinate this field trip with one held by the University of Saskatchewan in connection with a summer-school class.

iii. One of the members of our team, Mr. S. Kulyk, took a credit class in photography at the University of Saskatchewan in May and June; because of this, it has not been necessary to seek technical aid from outside our group.

iv. We have found it necessary to purchase reference materials from the Natural History Museum in Regina, Saskatchewan, in order to identify the plants and other specimens we have collected.

v. We have found it difficult to make tapes on location, so we are planning to work on this part of the project in the fall when the editing of the films is complete.

(f) Source or resource materials:

i. Personnel: We have members of the faculty of the University of Saskatchewan who have expressed enthusiasm and willingness to help in our projects.

ii. Reading: We have made use of:

a. Dr. Richards' *Atlas of Saskatchewan*

b. *The Resource Reader*, published by Saskatchewan Department of Natural Resources
c. Topographical maps
d. Budd's *Wild Plants of the Canadian Prairies*
e. Carmichael's *Prairie Wildflowers*
f. Porter's *Taxonomy of Flowering Plants*

iii. Material: We have purchased:

a. 1 Pentax Spotomatic 35 mm. camera with microscope attachment, extension tubes, filters and other accessories	$250.00
b. Display trays, mounting cases, collecting jars	50.00
c. Film, titling set, editing tape, etc.	190.00
d. 1 Super-8 movie projector	130.00
e. Field trip expenses (food, gas, cabin)	50.00

We would like to purchase relevant commercial material, a splicer, resin, cassette tapes, reels, and booklets and pamphlets to aid in classification.

(g) Evaluation procedures used:

Evaluation is constantly taking place; as films and slides are produced, we evaluate their uses to the group. We also rely on pupil enthusiasm and interest in the project and its product to evaluate the effectiveness of our work. We also plan to use this material as part of an institute for elementary science teachers, to be held in this school in September 1970.

4. General Comments:

i. Pupil response has been tremendous. Many pupils have offered to become team members, some suggesting areas and specific topics for research.

ii. Parent co-operation has been very encouraging. Offers of an airplane for aerial photography, cars for transportation, and general assistance are some of the responses we have had.

iii. We are anxious to continue this project next year, now that we ourselves are more experienced. This would involve requesting financial aid, primarily for film. We had suggested in our original proposal that this might be necessary.

iv. We have become very aware of the time factor, i.e., the period of time during the school year in Saskatchewan in which one can

take films is very short; this would necessitate careful planning and beginning work immediately at the beginning of the school year.

v. We would like to express our appreciation to the Canadian Teachers' Federation, and, in particular, to Mr. Roy Hill — without whose generosity and interest in education it would have been impossible for us to carry out this project. The Hilroy Fellowship Program has brought a great deal of life and many pleasant experiences to ourselves and to our pupils.

HILROY FELLOWSHIP PROJECT 4

1. Name and home address of teacher:

   Miss Audrey A. Rockwell,
   762 Garwood Avenue,
   Winnipeg 9, Manitoba.

2. Name and address of school:

   Somerset School,
   775 Sherbrook Street,
   Winnipeg 2, Manitoba.

   Plus eight other schools:
   Full-time itinerant teacher

   Schools

   Montcalm
   Machray
   Margaret Scott
   Norquay
   Cecil Rhodes
   David Livingstone
   John M. King
   Pinkham

3. Review of Project

   (a) Title:

   A NEW APPROACH TO LANGUAGE ARTS SCREEN EDUCATION FOR INNER-CITY CHILDREN

   (b) Purpose:

   To give an opportunity to grow in written and particularly oral verbal communication.
   To provide much needed experiential background for inner-city children.
   To implement a new study area — the visual communication of film — in a way most acceptable to cooperating teachers.

   (c) Age and other significant characteristics of pupils:

   They are children in grades 4, 5 and 6 approximately 9 years old to thirteen or fourteen. They are children who attend schools servicing the inner-city and who thus are in greater need of the vicarious experience of films.

(d) Procedures followed (from inception until end of school year):

Weekly presentation of film consisting usually of two films: one 10 minute film and one fifteen minute one, or one longer film. Films are followed by student-led discussions and group reports on lectern microphone. Program uses students in the roles of chairman and film introducers. The children saw the film: *Hans Brinker* in May, bringing to four the total of features shown this year. For these feature films a special procedure is used to give students the opportunity to participate more fully in program planning. Two students from each senior class (grades 5 and 6) preview the film the Friday before the feature is presented. These class representatives (different children for each feature) are responsible for composing three questions each: One question on story action or plot, one question on film techniques and one question on the communication of feelings that the images evoke. Then these questions — compiled and condensed if necessary by the resource teacher, are the ones used in the small group discussions the following week. This procedure makes the children feel important and creative and feel that the program is their own; so although it results in more questions than would usually be desirable, I believe this ego-building advantage for inner-city children far outweighs the disadvantages of time-consumption and too many questions.

Field trips are also an important procedure in two areas of our Communication Arts program: (1) the motivation of discussion skills and (2) the provision of experiential background for inner-city children. Field trips taken this year are:

1. The Planetarium
2. The Winnipeg Free Press
3. Canadian National Railways Transcona Shops
4. Technical — Vocational School
   Television Studio and Drama Department
5. One student from each school will go to the Morris Manitoba Stampede as guests of the Stampede Committee on July 25, 1970. An essay contest was procedure used to choose the children who would go.

Another procedure used to help implement the new study area of visual communication was the production of film-

strips. It was suggested that participating classes cooperate to plan the visuals for one filmstrip per school. Six schools

Cecil Rhodes
Norquay
Pinkham
Margaret Scott
David Livingstone
John M. King

made colorful and informative filmstrips in social studies and science study areas. These have been placed in school libraries for future use.

An important procedure to give the children a critical awareness of how television commercials manipulate emotions to sell products and to give also another creative opportunity to express themselves is videotaping commercials planned as class projects or as spontaneous parodies of current commercials. Unfortunately, due to an accident in which the video camera was broken, only two schools:

Montcalm
Somerset

were able to enjoy this activity.

The most important procedure used to teach visual communication was the production of class films in super 8 millimeter color. All the children wrote scripts, after one was selected the whole class became production crews — each class member must be given a job — this was a minimum requirement. Using a very simple $18.95 Halina camera and simple lighting, the children did everything themselves. After class editors completed film, the 2 students in charge of music made a music tape to accompany the film. We completed thirty of these completely creative films with the senior classes in grades 5 and 6. When Mr. Henning of Western Films Production saw them at the Class Film Festivals the last week in May he said the level of production expertise was amazing for children this age.

The juniors in grade 4 made 3 class films by a different procedure. The students drew crayon illustrations for a favorite story and the resource teacher filmed them. The class made a taped narration to accompany the film. I felt this procedure

was not a success because the children did not feel sufficiently involved: drawing pictures is a prosaic activity for most of them because they do it so much. "Making a film" is using a movie camera; and the resource teacher, in this case, did that; so to them, it was her film more than theirs. Next year I will go back to letting them film live action themselves.

(e) Modifications:

This year we have implemented 2 different levels in the program — teacher-led discussion with grade 4 Juniors and the grade 5 and 6 children as Seniors. This procedure involved setting up a completely different roster of films and the use of a second 16 millimeter projector so that the Junior students could pursue their program independent of the Seniors and without jeopardizing the screening needs of the grades 5 and 6 students.

(f) Source or resource materials:

4 features:	(1)	Tonka	Cost	$ 40.00
	(2)	Treasure Island		40.00
	(3)	The Great Adventure		4.00
	(4)	Hans Brinker		40.00
			Total	$124.00

paid by The Winnipeg School Division No. 1.

(g) Evaluation procedures used:

Evaluation procedure used was an individual private appraisal form completed by teaching staff and pupils.

Discussion skills have long been an accepted part of conventional language arts study programs, and yet for many teachers, their participation in the film study program is a first attempt to put the small discussion group approach into practice.

Forty-one appraisal forms were returned from principals and teachers. Of these nineteen specifically noted the improvement of discussion skills.

Teachers:

"Provided the children with opportunity for discussion and something to discuss."

"Good group discussion leading to added knowledge."

"It gives the children more opportunities to express their opinions."
"Noticed a real improvement in children's vocabulary, oral discussions and ability to think critically."
"I like the way the films lend themselves so well to discussion."
"The possibilities in discussion of seeing the emergence of cooperation and emerging leadership."
"Children learn to discuss critically."

Students:

"I can express my thoughts better."
"It helped me communicate with people."
"Now I can discuss things with people."
"Because the discussion made me think and I had new ideas."
"It helped to give me courage and I was more of a person who was enjoyable to talk to."

Film study provides a unique opportunity to give children experience to draw from and talk about.

Principal:

"The program provided an enrichment which is not provided in the regular classroom."

Teachers:

"It broadened the children's general knowledge."
"They also learnt about many things they otherwise would never ever see in their lives."
"Offers the children many and varied experiences through film."

Students:

"It gave me information I liked."
"Watching these films just seems to show right and wrong."
"I have become a better person because I know about things I didn't know before."

For non-readers and non-writers of the inner-city it is a wonderful chance to be contributors — all they have to do is look and when they talk there are no wrong answers. I cannot over-emphasize what this does for these children.

Teachers:

"I liked this program mainly because most children learned about communication — each taking their turn as group leaders. Helped social interaction."
"The children express themselves more freely."

Children:

"It showed me how to speak up."
"It gave me self-confidence."
"It has because I want to participate in things."
"Before I was scared to go up but now I'm not."
"It made me feel like a real person."

For the teachers, the Communication Arts Program provides a unique method of implementing a new study area — the visual communication of film — in the least threatening way.

Forty-one appraisal forms were returned by cooperating teachers and of these 33 were positive and 7 negative. The important point is that *all the teachers* — even the three who were most negative, insisted they wanted to have the program again. And this year did see teachers, who would never have tried film-making and other visual art activities on their own, succeeding in this new subject area, and willing to go on.

4. General Comments:

The inner-city child does not excel in reproducing factual information in a formal test situation. A contributing factor is his lack of confidence. Any attempt to evaluate the program with this objective would have produced sorry results indeed; and would have been a denial of the purpose and informal presentation format used. The following anecdote may illustrate my point. One class had been asked to complete their appraisal forms on their own. Two weeks later I called to pick them up; and few had been turned in. Many were "lost". I explained how helpful I had been finding the responses on other children's forms in terms of preparing next year's films and songs. The stress was on the value of their opinions and how those opinions had a real effect in what they would have next year. As a result, many "lost" forms magically appeared out of desks and questions that had been "not understood" were meaningfully answered.

The overall response on all sides was tremendously positive and shows the program made much progress in fulfilling its objectives. It will be carried on again next year.

For myself, I am very happy that I have been given this opportunity not only to help meet the intellectual needs of a thousand students but also to make a considerable contribution towards meeting their emotional and *social* development needs. The socializing involved in discussion groups and film-making is something the inner-city child needs most. Group action and the weight of his individual opinion in such action is a behaviour pattern he has little chance to learn at home because his parents do not use it. So the evaluation I am most grateful for is in the children's own assessment of their year in Communication Arts:

> "It helped me become a better person because I learned not to fight but to share."
> "I found out school isn't all mean teachers and mad."
> "Now we respect the chairman when he makes just a little mistake."
> "It showed happy people sad and how to work with another people."
> "It made me feel like a real person."

HILROY FELLOWSHIP PROJECT 5

1. Name and home address of teacher:

   Mrs. Terry Gibson,
   Regal Road,
   R.R. No. 3,
   North Bay, Ontario.

2. Name and address of school:

   W. J. Fricker Senior Public School,
   Norman Avenue,
   North Bay, Ontario.

3. Review of Project

   (a) Title:

   CARTOON ANIMATION — PRODUCTION OF AN ANIMATED BLACK AND WHITE FILM SHORT

   (b) Purpose:

   To discover the methods by which still pictures produce a sensation of movement, and to study through this awareness of technique, and through actual production, this form of film media.

   To provide over the course of a year, a project with continuity, so that the activity might produce its own momentum.

   To observe growth in students through this activity: growth in understanding, growth in patience and perseverance, growth in manual facility and in pride of craftsmanship.

   (c) Age and other significant characteristics of pupils:

   Grade 7 and 8 volunteers, average age 13, with both grades equally represented. Both boys and girls, but most of the really keen ones were boys, and in Grade 7.

   (d) Procedures followed (from inception until end of school year):

   Organization of Work-Groups: Because of the large number of students originally involved, we had four elected editor-directors chosen from among them, and they in turn sub-divided their groups under team leaders. The story line was

decided as a group and the appearance of the recurring characters standardized by ditto copies of winning sketches from their contest. Each team had the task of animating and inking their own segment of the story, with autonomy within limits.

Technical Information: Team leaders had access to resource material, but much of it was discovered through experience and experiment. We learned together.

Animating: This was done first on facsimile-frames ditto-copied on paper, using a "light-box" (small box, light bulb, glass cover) for easier more accurate tracing. Sometimes these were tested by the flip-book method before inking with mapping-pen and india ink directly onto clear 35 mm leader by tracing accurately.

Action had to be analysed, timed and translated into the 24-frames-per-second medium of film. Most titles were amusingly animated.

Viewing and Editing: This had to be at a local theatre, with its 35 mm projector, and caused a delay in seeing on the screen the result of theory and experiment. (This is really the only disadvantage of 35 mm: the delayed reinforcement or rejection of an idea. The advantage of larger frame-area on which to draw far outweighs this.) Editing proved to be a much more time-consuming thing than expected. Preliminary editing had been done in the assembling of segments for splicing into one whole; in setting them in particular order, in eliminating obvious errors, in finding humour in juxtaposition of opposites, and the like. However, in viewing, other things were apparent, such as errors in framing (four sprocket-holes to each frame) which cause long hours of trouble-shooting and re-splicing before the film would be accurate enough to send to the lab. Further, we found timing off in various places, which could have, with more time, been rectified by doing more footage to splice in. Instead, we chalked it to experience, and next year's teams are well aware of the situation.

The final step is out of our hands, for the film had to be reduction-printed at a lab (Film House, Toronto) to 16 mm stock, for use on school projectors.

(e) Modifications:

Timetabling caused considerable change, making it more difficult for many students to find time for this work. On moving to a new school building, and change to regular hours from staggered ones, classes were reorganized, and teams split. There was considerable unavoidable disruption, and this reduced the number of students involved. Those who were keen, however, made their own team-arrangements, working outside of school.

The project remained voluntary, as before.

Although we began with black-and-white, coloured segments were included in the film (using transparent colours) and they gave us grays in the film which would have been possible no other way. This is useful for later films.

An idea for the use of simultaneous slides of this coloured material did not work too well because of problems in synchronizing, and because of "perceptual fatigue" in our overloaded viewers!

(f) Source or Resource materials used:

Books: Public Library, and from the library of the Ontario Institute for Studies in Education. No cost.

Film Footage: National Film Board movie cartoons, viewed both with and without projector at the Public Library. Studied closely, these were perhaps more valuable than the books, in the formation of theory and in raising new ideas to be tried. They also were most reassuring at the early stages of the work, before we had a chance to see our own in action. No cost.

Personal Resources: We had to solve our own problems, for much of this is not written anywhere. The use of ditto facsimile-frames grew out of necessity for accuracy. The light box, originated by the Editor-in-Chief, alleviated eye-strain in tracing, and improved accuracy. The editing-board (large wallboard, ruled into coded areas onto which completed segments were attached ready for splicing) also grew out of a need for order. Costs were incidental, small.

35 mm clear leader: Obtained from Eastman Kodak, Toronto, at $22 per 1000 feet. We had two cans on hand, and used a little over half.

India ink, provided as part of school supplies.

35 mm splicer: Borrowed from theatre, CFB North Bay. (I am at present trying to buy our own, for future use. It may be quite expensive unless a good used one can be found.)

16 mm splicer, purchased for $6.98. (For use after the print was received.)

Use of 35 mm projector, and presence of qualified theatre projectionist, (required by law). Sgt. Casselton, of CFB North Bay, our most patient projectionist, and fount of knowledge, who spent many long evenings with us, refused our honorarium stating that he had really enjoyed working with such a fine group of youngsters. (I agree; they are a fantastic group of kids. What he did not know is that three of the members of the group were what are usually considered "discipline-problems" in the classroom.)

Reduction Printing: Film House, 22 Front Street W., Toronto. We had two prints made (they turned out to be negative prints, but no matter) and after combining certain sections to get extended time into those areas which were too brief, will get a final print made. (Used 16 mm splicer here.) The two prints so far cost just over seventeen dollars, and the final prints (one for the school library, one for other purposes) should not be more than $12 each.

Needless to say, such a low cost for reduction-prints puts this well within our reach for many years to come.

(g) Evaluation procedures used:

Personal evaluation among the students indicated that much had been gained in insight and experience. They were pleased with the result of the winter's work.

Teacher evaluation: There was considerable evidence of growth in capacities of the students. Objectives as stated were achieved, but in far more dramatic ways than expected. The students became totally involved with the project. They worked through their lunch hours at it, and had to be chased home at night. They worked at home, and toward deadline, I

hear that there were teams who worked through the night by shifts! (With parental permission and surprise.)

Much true invention took place, as ideas were tried. Students discovered excitement in work . . . something more of us should know!, and confidence in their own ability to tackle and complete a "hopelessly" large job.

In the Film Festival, we made the finals, but were not one of the five chosen to represent Canada at Yugoslavia.

(h) Unforeseen outcomes:

One was the surprising amount of momentum generated by children engrossed in a project they feel to be their own.

Jim discovered he was a natural leader. Others listen. Scott discovered that he COULD achieve the fine control needed to work on a 3/4 by 1" frame, and ended off as one of our most prolific animators. (Scott was a happy-go-lucky kid, immature for his 13 years, inclined to be sloppy.)

Discoveries about the medium: (discovered by students)

About action: Trajectories, such as those by flying objects decelerate on rising, stop at the top, then accelerate until they land, compress, and bounce to repeat the pattern. Fewer positions indicated provide faster motion. The process of walking is a very complex set of movements and shifts of balance.

Discoveries about perception: (as above)

A single frame is subliminal, and not seen at all on the first viewing. They had one such frame: "Fricker school: The Best!", which became readily apparent to initiates after many viewings.

The problem of perceptual lag. At first, they spliced all segments together, and wondered why the pace was so very hectic. Exhausting to watch. Then they put six to eight blank frames between segments where there was a cut to new material, and although the blanks are not noticed as such, the whole thing became a much more pleasant experience and the pressure was off.

Useful information:

> *We lost a small part of each picture at the right, for* we forgot to allow for the sound track. Next time, we will mark this area on the facsimile.

In conclusion, this has been a most satisfying experience for me as a teacher, and one which I would not hesitate for a moment to recommend to others. Perhaps the hardest part of it was remembering not to interfere, not to guide, not to manipulate. Traditionally that has been the role of a teacher, by very definition and such a role would certainly have interfered with learning. There is so much more to gain by letting them teach themselves.

HILROY FELLOWSHIP PROJECT 8

1. Name and home address of teachers:

A. Baird Knechtel,
103 North Drive,
Islington, Ontario.

Peter Nightingale,
82 Kingslake Road,
Willowdale, Ontario.

Diana L. Scrivens,
47 Cheritan Avenue,
Toronto 310, Ontario.

2. Name and address of school:

Emery Collegiate Institute,
3395 Weston Road,
Weston, Ontario.

3. Review of Project

(a) Title:

HUMANITIES COURSE

(b) Purpose:

Our purpose was to develop a course with stress on human values as seen through the arts.

(c) Age and other significant characteristics of pupils:

A class of Grade XI five-year Arts and Science students participated in the project. The students were in the general age range of fifteen to eighteen.

(d) Procedures followed (from inception until end of school year):

We worked with the students to create the artistic environment of a period of history. Two periods a week were given to the course. Those students involved had two fewer English periods per week than the other Grade XI students. As heads of the English, Art and Music Departments we reorganized our preparation periods so that we were all available for both periods each week. Sometimes the class session was organized by one of the teachers; more often each teacher worked with a group of about ten students. Maximum use was made

of school facilities — Theatre Arts Room, Cafeterium, Music Room — and of audio-visual equipment — cameras, projectors, video-tape recorders, tape recorders, art supplies, record players.

(e) Modifications:

We found that the course was most effective when we dealt with the interaction of the arts and history rather than when we tried to deal with them separately. Secondly we found it necessary to limit the historical period to a decade so as to make our studies convergent rather than divergent. The decade we chose for concentration was the Twenties.

(f) Source or resource materials:

Little material has been written on courses of an interdisciplinary nature. We found *The Humanities: a planning guide for teachers*, published by the University of the State of New York, 1966, interesting in certain respects in our preliminary discussions. We depended for the most part on our own personal libraries and the Emery Collegiate library for resources. Films were obtained through the North York Audio-Visual Centre. We bought a number of items to serve as a nucleus for a Humanities resource centre within the school. We spent approximately $495 of the award money on these materials.

(g) Evaluation procedures used:

The students planned, produced and presented their revue of the Twenties with enthusiasm; they wrote the scripts, created the costumes, composed the music, made a film insert and video-taped the performance. Many members of the class spent a good proportion of their extra-curricular time in the last term on the project. The extent of initiative, inventiveness and time each person contributed was reflected in his English mark. Several class periods during the year were spent in evaluation of the course and assessing directions and objectives.

4. General Comments

The project has been considered successful. Humanities, titled Arts 103 for next year, is being offered as an optional subject in Grade X. The course has been selected by over seventy students. Three

classes are scheduled for five periods each per week. The program will be continued in Grade XI and Grade XII in subsequent years. We hope to maintain our work in mixed media presentations and the study of creative techniques. We hope to do more work on themes, personalities and schools of thought in the arts. Finally, we hope that students will start to articulate the insights that they gain into human values through these experiences.

HILROY FELLOWSHIP PROJECT 7

1. Name and home address of teachers:

   Mrs. J. Bolger,
   65 Mount Pleasant Avenue,
   Pointe Claire, Québec.

   Mrs. T. Gitto,
   4397 Elgin Avenue,
   Pierrefonds, Québec.

2. Name and address of school:

   Beaconsfield High School,
   84 Beacon Court,
   Beaconsfield, Québec.

3. Review of Project

   (a) Title:

   A PROBLEM-CENTERED, DIFFERENTIATED APPROACH TO THE TEACHING OF CANADIAN HISTORY.

   (b) Purpose:

   i. to emphasize current significance of major themes in Canadian history.

   ii. to develop these themes by a problem-centered approach.

   iii. to allow for the differences in abilities and interests of the students involved (heterogeneous classes).

   iv. to concentrate on the development and application of basic historical skills and concepts.

   (c) Age and other significant characteristics of pupils:

   I. Grade 9; 14-15 years old.

   ii. Boys and girls; heterogeneous (non-streamed) classes.

   (d) Procedures followed (from inception until end of school year):

   The course plan was developed during the summer preceding the 1969-70 school year, and basic methods devised at that time were followed throughout the year. A meeting was held in September with parents of the students involved, at which

time methods and procedures were introduced and explained. From there we proceeded with the methods, as follows:

i. large group presentation of themes and basic ideas, with use of speakers and multi-media wherever possible.

ii. this, followed by group work in classrooms.

iii. group work is differentiated to three levels. It included small group discussions, documents with quotations, multi-text research, thematic organization of factual material, teacher guided study. After core themes are solidified, some students pursued independent "contract" assignments with regular teacher consultation. Other students worked on individual assignments in class.

(e) Modifications:

i. LARGE GROUP PRESENTATIONS — The large group presentations, as originally conceived, fulfilled the function of unifying the various classes of students in the programme and also made it possible to present factual and thematic information before grouping was arranged. It facilitated arrangements for speakers, movies and other visual material which helped to enrich the course. On the whole, we feel this part of the plan worked well and we intend to continue its use.

ii. GROUP WORK IN CLASSROOMS — Some modifications are planned here. Firstly, we feel that small "buzz sessions" of from two to four pupils should not be arranged until about mid-October and closer teacher guidance of all pupils should be maintained until that time. This will allow time for the teachers to instill better organizational skills and for pupils to get to know the teachers and their basic requirements (organization of note books, preparation for group discussions, forms of testing, uses of multiple sources, emphasis on primary sources, etc.).

iii. DIFFERENTIATION TO THREE LEVELS — The course is differentiated to three distinct levels and this, we feel, should be continued. However, actual teaching of three separate levels within a single classroom is difficult. Next year, it is planned to have two main groups in each classroom, although the programme will still be approached at three interest and ability levels. (For example, class-

room A might have levels I and II; classroom B, levels II and III, etc.). Our school will be scheduling groups of approximately sixty Grade IX students to take History at the same time and, therefore, re-grouping of students by ourselves will be possible.

iv. GREATER EMPHASIS ON SKILLS — We are in the process of drawing up a definite list of skills to be covered in each unit of our programme. We feel greater emphasis on skills is necessary, and this can best be done if a clear statement of our aims in this particular area is worked out in detail. We plan to consult with the Social Studies teachers in Cycle I (grades 7 & 8) to obtain an outline of the skills already presented to the majority of the students now in grade 9, and build on this outline.

v. REPORTING TO PARENTS — We are strongly recommending some change in reporting procedures. Parents should be aware of the level at which their child is working and how marks fit within that framework. It is hoped to give out first interim reports during a parent interview (approximately mid-November) at which individual problems may be discussed.

vi. PARENT INVOLVEMENT — We found at the special meeting in September that the parents of the students involved displayed considerable enthusiasm. We plan to use a similar meeting next term to recruit interested volunteers to assist throughout the year with such duties as Research Center duties, typing, routine corrections, etc. We also hope at the same time to draw up a list of various resources in the community that may be called upon during the course, plus possible help in arranging excursions to supplement the course, etc.

(f) Source or resource materials:

Beaconsfield High maintains a History Resource Centre independent of the school library. Both facilities are fairly well stocked with Canadian resource material. Students are also encouraged to use outside libraries, personal resources, etc.

Excursions were also made to "old Montreal", Montreal Harbour, Ottawa and environs. Special speakers of various ethnic backgrounds (from the wider community) addressed the stu-

dents and conducted question periods. Other speakers were also arranged for, such as the Chief of the local Indian reserve, an engineer from the St. Lawrence Seaway, etc.

Considerable time and some expense is involved in typing and duplicating material for this course.

(g) Evaluation procedures used:

Because of a change in school-closing procedures, it was not possible to distribute the questionnaire for student evaluation of the course. It is planned to survey about 20% of the pupils (across all three levels) in September.

As teachers, we are especially rewarded by the response of the slower students to being able to work on material within their ability, who showed considerable interest in various units and who responded to the greater individual attention possible in group work. At the "top" level, some contract students greatly appreciated being able to work on their own and took full advantage of such freedom. For example, one average-ability student on contract spent considerable time in well organized interviews with a number of local officials, going through old parish records, writing government personnel, etc., in order to collect material for a project on local history. Others showed much motivation and intelligence in analysis of controversial Canadian issues (such as, the long range effects of the National Policy on Canadians). Lastly, although we are not dissatisfied with the results from the "middle" groups, we are concerned to develop ways of stimulating enthusiasm here and also to the refining of historical skills.

We definitely feel that the cause is worthy of continuation, especially with the modifications mentioned above.

4. General Comments

Generally, pupil response was enthusiastic. Some complained about the amount of work involved. There was a certain problem for some in keeping work organized, as considerable material was of the "hand out" type. We feel that the students did end the year with a consciousness that certain historical processes were going on around them. This was particularly evident in their analysis of the Quebec elections towards the end of the term. "Contract" students were aware of their

responsibilities and some produced very fine work. In a few cases, contract privileges were withdrawn and this, again, served a purpose. We are looking forward to presenting the course, with modifications, next school year with even greater enthusiasm and conviction.

PLAN DE BOURSES HILROY, PROJET 8

1. Noms et adresses des enseignants:

   Mme Edith Desaulniers,
   480, Levasseur,
   Alma, P.Q.

   Mme Solange Gaudreault,
   202 Butler,
   Alma, P.Q.

   Mme Ghislaine Tremblay-Lapointe,
   165 Ouest, rue Savard,
   Alma, P.Q.

   M. Ludger Côté,
   425, rue Côté,
   Alma, P.Q.

   M. Benoit Thivierge,
   Rte St-Bruno,
   Alma, P.Q.

   M. Magella Duchesne,
   401, Chemin Dupont,
   Alma, P.Q.

2. Nom et adresse de l'école:

   Pavillon Riverbend,
   Mill Road,
   Riverbend, P.Q.

3. Revue du projet

   (a) Titre du cours:
   COURS PRE-SECONDAIRE

   (b) But:

   La fin première du cours pré-secondaire est de recycler les élèves qui ont terminé leur 7ième année et qui sont trop faibles académiquement pour entreprendre un cours secondaire. (Il est peut-être utile à noter que les règlements du Ministère d'éducation à Québec exigent que chaque étudiant entre à l'école secondaire après un maximum de sept ans dans l'école élémentaire.)

(c) L'âge et autres traits importants des élèves:

L'âge des élèves varie entre 12 et 15 ans. Ce sont, pour la plupart, des élèves qualifiés de lents intellectuels, donc ayant de la difficulté à suivre un cours régulier. Pour ce qui est des autres élèves, ce sont des enfants incapables de suivre un cours régulier, ceci dû à une déficience mentale, et qui sont destinés à suivre un cours de métiers ou d'aides.

(d) Méthodes suivies:

Notre méthode d'enseignement consistait en une série de fiches de travail individuel, en français et en mathématiques. Ces fiches, qui résument toute la matière du cours élémentaire, sont faites individuellement par chaque élève au rythme que chaque élève est capable de suivre.

(e) La source des matériaux ou accessoires utilisés:

Tous les matériaux ou accessoires dont on a eu besoin ont été créés par nous-mêmes. Nous avons créé des tests que nous passons aux élèves au début de l'année; nous avons créé les fiches individuelles (environ 100 en français et autant en mathématiques); nous avons fait des tableaux de classification, afin de suivre chaque élève individuellement et de voir dans quelle mesure il évoluait dans chaque matière.

(f) Méthodes d'évaluation appliquées et résultats obtenus:

Au début de l'année chaque élève a été classé d'après le résultat qu'il obtenait en passant les tests que nous avions créés nous-mêmes à cette fin.

A la fin de l'année scolaire, chaque élève a passé un test de Français, un test de mathématiques et un test d'aptitudes générales. Ces tests étaient préparés par la Commission Scolaire Régionale du Lac St-Jean. Ces mêmes tests avaient été passés auparavant aux élèves réguliers de 7ième année et constituaient un test d'admission pour le cours secondaire. La méthode de correction et de classification a été la même pour les élèves du cours régulier et pour les élèves que nous avions au cours pré-secondaire. D'après ces tests, sur un total de 95 élèves que nous avions cette année, 56 réintégrent le cours régulier, c'est-à-dire, entreprendront leur cours secondaire au mois de septembre 1970, et 11 reviendront au cours pré-secondaire en septembre 1970

pour une période de 4 mois avant d'entreprendre leur cours secondaire au mois de janvier 1971. Quand aux 29 autres, ils suivront soit un cours de métiers, soit un cours d'aides.

4. *Commentaires d'ordre général*

Après un an de travail auprès de nos élèves, nous sommes pleinement satisfaits des résultats obtenus. Au début, nous espérions qu'environ 40% des élèves réintégreraient le cours régulier. Devant un taux de récupération de 60%, nous pouvons dire que notre année de travail a été fructueuse, et nous sommes vraiment fiers de notre année. Au début de l'année, nous sommes partis à zéro et nous avons réussi à structurer un programme d'étude et à entreprendre une expérience qui s'est avérée très valable. D'ailleurs, après avoir vu les résultats obtenus, nous avons eu des félicitations de tous les directeurs de la Commission Scolaire Régionale. Enfin, devant la validité du cours pré-secondaire et de notre méthode d'enseignement, ces mêmes directeurs ont décidé, pour septembre prochain, d'ouvrir 6 autres classes de pré-secondaire, réparties dans deux écoles.

HILROY FELLOWSHIP PROJECT 9

1. Name and home address of teacher:

   Paul Lawrence McPhee,
   101 Courtenay Avenue,
   Saint John East, N.B.

2. Name and address of school:

   Simonds High School,
   Bayside Drive,
   Saint John East, N.B.

3. Review of Project

   (a) Title:

   INDIVIDUALIZED LEARNING AND INQUIRY

   (b) Purpose:

   To provide an environment so that:

   i. Students may follow an individual path of study in a disciplined manner, according to their needs and interests.

   ii. Students may understand the learning process.

   iii. Students may be treated as individuals.

   iv. Students may cultivate self-control and actively learn to exercise choice.

   (c) Age and other significant characteristics of pupils:

   Students age 16-21 who are in a level III non-academic program.

   (d) Procedures followed (from inception until end of school year):

   The methods originally planned called for a course breakdown, diagnostic testing, profile sheets, student library record sheets, student individualized folders, a classroom library, and field trips on an individual and group basis.

   The procedures called for were:

   i. To provide daily the opportunity for students to work individually in their areas of need and interest.

   ii. To counsel individual students, on request from the stu-

dent, as to the best technique he or she may employ in learning a specific field of enquiry.

iii. To encourage reticent students to set up a workable schedule of learning activity according to their profile and interest.

iv. To test individual on request who have completed specific areas of enquiry.

v. To keep a daily anecdotal record of class and individual activity characteristic of them.

vi. To research each individual's background in the subject matter field — his abilities, capabilities and achievements — and maintain a file of this information along with his current course activities, for teacher reference.

(e) Steps taken and procedures followed up to the date of reporting:

i. Students were tested with the "Tactics" diagnostic reading skill tests. The results were profiled on a chart indicating where the student should work and where he would find the material to improve his skills.

ii. Students were tested with a partial fundamental English grammar test. The results were profiled on a chart indicating where the student should work and where he would find the materials needed to improve his skills.

iii. Paperback book catalogues were acquired and made available to students. The students chose the titles or types of books they would like to have had in a classroom library. A committee of five students from each class went to the local book distributor and personally chose the books they wanted from the stacks. The book distributor, Saint John News, donated paperback book racks for the classroom. Some of the racks were converted for magazines and donations of magazines were sought.

The books were not catalogued and were not checked in or out. This was done to allow students total freedom in their selection. Naturally enough, books generally didn't come back. However, I reasoned that if science equipment can be deemed expendable, so can paperbacks if they encourage students to read.

iv. Students were given individual folders to store their profile sheets and tests. The folders were to be left in the room at all times. Along with the folder, each student received an explanation of the program and a library record sheet on which to register their reading.

v. Requirements were set for reading -- one hundred and fifty pages per week — and for the journals — two pages per week.

vi. The students were then set on their own courses. Each class was to choose the area of English they wanted to work in.

vii. In the beginning, students were very hesitant about asking questions. I used the class time to research their background. I made a record of each student's grades in English through school, I.Q. results, achievement test results, father's occupation, religion, number in the family and previous teachers' comments. Gradually I found students asking to be tested, asking for suggestions on approaching a theme or asking for clarification of material being studied.

viii. During May and June I led discussions with interested class members on topics of their choice (Drug Abuse, Television Viewing) several days a week.

(f) Modifications:

Upon realization that only about 20% of the students were asking to be tested and even wanted to be tested, I decided an arbitrary system of assessment must be set up. With student help I set a minimum standard of work to be done in the skill and project area. Every two weeks it was agreed I would come to each student and with the student providing the proof of accomplishment I would assign a mark out of 10. In arriving at the mark I was to attempt to strike a balance between what the student had objectively achieved and that student's individual ability.

Upon realization that students were not, individually or as a group, coming forward with topics for discussion by the class, I came to an agreement with the students that I would take the initiative to bring in material with the purpose of stimulating class discussion. The objective would be talking

and listening — no right or wrong answers — discussion was to be all.

(g) Source or resource material in use:

Tactics reading skill laboratories I and II
Correlated text books Vanguard and Perspectives (supplied by the school)
Penner and McConnell's Learning English language text — supplied by the school
Blumenthal's English 2600 Programmed grammar — School Board
Ginn & Company "Unit Lessons in Composition" 1 complete set, $40.00 (ordered)
Three Rapid Reading Kits, Maclean & Hunter $75.00
Paperback novels and reference books $200.00
Book shelving material $10.00

(h) Evaluation procedures used:

i. Have each student write the evaluation reading skill test from the Tactics Laboratory.

ii. Compare the evaluation and diagnostic tests.

iii. Compare a June writing assignment with one from the beginning of the year on the same topic.

iv. Draw conclusions from the anecdotal notes.

v. Ask students to comment verbally and in composition.

I administered the Tactics evaluation tests to all students, without warning, during the final weeks of the school term. After comparing the diagnostic results with the evaluation test results, I calculated that there was an average increase in reading abilities of approximately thirty percent. Since there was no control group I have no way to draw conclusions from this finding.

To assess their writing improvement I compared a final composition with the first composition each student wrote for me. I found marked improvement in the work of all students. Generally, students wrote more, which seemed to bring about a fluid flow to the writing as compared to choppy styles in the beginning. There was evidence of improved organization of thought. Many students put illustrations and

examples in their writing when in the beginning there were none. The most impressive improvement was in the variety of words used and number of ideas presented. However, it was very evident that composition form did not improve. That is to say, the grammatical aspect (spelling, punctuation, syntax, etc.) generally remained at a similar level to what it was in the first composition.

Through anecdotal notation, I have come to several intuitive conclusions. First, students in the program found great difficulty setting up personal areas of inquiry, in fact the task proved to be impossible for all but a few. Most students remained with programmed skill material and personal reading for the entire program period. For some, I eventually set up literature studies which generally turned into busy work. Thus, I have come to doubt the value of individualized inquiry for the majority of these students. Even so, the students generally responded favorably to the individual learning situation. Many students gained personal confidence that they could learn. Secondly, I got an insight into the great personality involvement with learning that there is for each student and especially in the learning of English. Evaluation was the final significant area. Since most students did not want to be tested, evaluation became subjective. This being so, I intuitively felt that the student placed much emphasis on being in the good graces of the teachers.

The student's reactions were positively weighted but there were some mixed feelings. Being able to come to class and work in an area of their own choice in English at their own rate appealed to all but a few. Approximately ten percent of the students found it a struggle to work on their own. Several students noted improvements in all other subject areas because, as they stated, "I learned how to study." The unqualified agreement of all students was on their improved interest and activity in reading. "I read every chance I get now. I never did this before this year," or "I read more this year than I have ever read before," were the usual comments made by the students.

I feel my evaluation would be incomplete without a comparison of the purposes and results. Students did follow individual paths of study; however, their rate of progress was much slower than I had anticipated. Many students felt a definite

awakening to learning through the program. It became apparent to many students that learning was more than rote study. To some, learning was seeking answers to questions by reading, questioning and discussing to come to a conclusion which was not always the total answer. To others learning became the organization and categorization of material for a topic. Finally, learning became the interpretation of facts about a topic. Because of the individual student folder, personal testing, individual counselling and assessment, students unanimously agreed to individual treatment in class. In as much as students selected areas of study from the programmed material and were willing and able to settle down to meaningful classroom activity well within the first ten minutes without teacher direction, I feel these students did exercise choice and self-control. Thus the purposes set out at the beginning of the program were achieved.

4. General Comments

The student response was favorable. They enjoyed working on their own. The program continued for the entire term with the majority of students participating completely. As a response to the question of how they liked the program, one student adroitly stated, "Mr. McPhee, if we didn't like it and weren't working, don't you think we would make you knew it!" I think they would have. The need for discipline throughout the program was minimal.

There were several unforeseen outcomes which are noteworthy. The most impressive was the quietness experienced in class. However, when one considers that the instruction was individualized the characteristic becomes acceptable. I was disappointed that students were incapable of setting up personal fields of inquiry. Nonetheless, it is a finding of importance for me, negative though it be. It seemed that students of this calibre want, and perhaps need, authoritative direction in their studies. Finally, I was surprised to find my role as the teacher had become more of a management role than anything else. Most of my time was spent gathering and organizing material in order to facilitate the studies of the pupils.

As to whether or not the program has total educational value I am in doubt. When I think of the amount of material these students traditionally studied at this grade level, I doubt if they actually covered

or grasped a comparable body of knowledge. Yet, when I consider that pupils came to my class in the beginning, poor readers, reluctant readers, and left, some avid readers, most liking reading, I feel less doubtful. Again when I consider the number of pupils who adjusted to school to become students and like it, I feel there has been a certain measure of success.

HILROY FELLOWSHIP PROJECT 10

1. Name and home address of teacher:

   Mr. Leonard Prentice,
   480 Portland Street,
   Dartmouth, Nova Scotia.

2. Name and address of school:

   Southdale School,
   Hastings Drive,
   Dartmouth, Nova Scotia.

3. Review of Project

   (a) Title:

   LISTENING STATIONS

   (b) Purpose:

   To develop and improve language skills and appreciation by integrating the various disciplines (school subjects) into a more meaningful situation rather than by artificial means.

   (c) Age and other significant characteristics of pupils:

   For the first phase of our project we have concentrated on pupils in the 5, 6, 7 year age group, i.e. pupils within the first two years of school for teaching, reviewing, enrichment, extended readiness for slow beginners, for slowing down and speeding up learning situations. For the second phase of our project we extended our program to pupils in the 8, 9, 10, 11 year age group, that is, pupils in the 3rd, 4th, 5th years in school for teaching, reviewing, enrichment, for slowing down and speeding up learning situations as in the above phase.

   (d) Procedures followed (from inception until end of school year):

   Listening stations have been set up with the purpose of integrating all the school subjects through listening, speaking, recording (taping). Teachers and principal serve as resource personnel rather than the central figure in the learning situation. They guide rather than lead as children set their goal, organize their resources and evaluate the outcome of their research or learning situation which they have set up. Teach-

ers' time is freed by use of materials we have procured or produced. This is particularly beneficial in eliminating tedious repetitions necessary only for some pupils.

(e) Steps taken:

Several companies were contacted for materials and prices. Materials were procured as listed below. A workshop was held for teachers on the use of tapes, records, listening stations and tape recorders. Each teacher recorded something in order to evaluate her own teaching procedures, voice etc. From this meeting teachers again met in several sessions to make tapes through a co-operative effort. Since that time several tapes have been made.

Some tapes made by the teachers, as well as commercial ones, have been used for several classes over the P.A. system. This proved both interesting and beneficial.

In phase two, tapes have been made in sequence, language skills, and other reading skills necessary for these age groups, listening skills, stories and poems taped by both teacher and students.

(f) Modifications:

Although we offered several suggestions in our original application for the Fellowship we are concentrating on the making and use of tapes.

(g) Source and Resource Materials:

Listening Station	$ 81.25
Language Arts — DeoCreative Ability	18.20
Reading Readiness Tapes	57.90
Vowel Tapes	72.00
Word Building	64.90
Tape Recorder	141.60
4 Inch Tapes	12.87
2 Listening Stations each $109.55	219.10
1 Tape Recorder	129.80
	$797.62

These were obtained through the Hilroy Fellowship Award.

(h) Evaluation procedures used:

Through the whole evaluation period principal and teachers met on several occasions to evaluate what had been done and to discuss progress and to make future plans for continued progress and refinement.

We found tapes particularly effective for reviews at the year end.

4. Comments:

Pupils like the earphones very much. They feel they are individuals being spoken to directly and they respond in a like manner. Pupils have learned to become more self-reliant and independent through the use of listening stations available in a particular part of their room. These pupils are gainfully employed independently while the teacher is free to work with other groups needing her assistance.

We feel the extra individual attention the listening stations seem to give pupils plus the more careful planning by teachers have benefited many pupils. Listening skills have developed much more quickly through this media than by traditional means. Children appreciate the change of voices heard on tapes. Even this has helped develop listening skills. All in all we are very interested in our program. We hope to extend it now that we have a room to do so.

5. Summary:

We have been quite excited up to this point with our project but we, like the children, will need an extended period of experimentation before we can evaluate fully the results of what we consider a very worthwhile program.

6. Supplementary Notes:

Our tapes include readiness tapes such as rhyming words, selecting pictures alike, pictures different, shapes alike and different, recognition of shapes of letters, recognition of size, position in space, lower case letters, action words, name words and colors. These were particularly useful for children not quite ready for formal learning as well as for review of some topics such as rhyming for pupils more advanced yet in need of review.

Vowel tapes were also done — both long and short. Short vowels are

particularly difficult hence were used both for teaching and reviewing. Blend and diagraph tapes were also made for the same purposes.

Tapes on sequence were done with a great deal of zest since this is one phase of reading particularly difficult to teach and also for pupils to comprehend. These tapes provided all the patience required for such a topic.

A number of tapes were prepared on listening skills. These tapes also provided background for creative writing, hence they played a dual role.

Word building tapes provided practice in noting root words, suffixes of various types, prefixes, plurals formed in various ways, contractions, compound words and possessives.

Tapes were used in the classroom sometimes with the whole group. In this case we would use just the tape recorder. At other times we used the listening station or stations with a half or a third of the whole group while the teacher was working with the rest of the class. Pupils were using the listening station(s) either for pleasure or for learning some specific skill.

Tapes proved very useful with children not ready for formal learning. These were pupils needing much more attention than was available in classes of from 35-40 pupils at five years of age. With each five-year-old I placed an eleven-year-old. We used tapes for listening skills first along with transparencies and an overhead projector. This was followed by readiness exercises with directions taped. The one-to-one correspondence gave the smaller children the extra attention they needed and at the same time the older pupils were receiving training in citizenship. The tapes provided guidance for both groups. The older children enjoyed helping the smaller ones and they learned to understand the difficulties other children have.

In conjunction with listening stations I also placed a second group in one-to-one correspondence with another group of eleven-year-olds. These children were ones who were in school for their second year. They were slow in developing their reading skills. They seemed to be making little or no progress in a regular classroom situation. First we used the tape recorder and listening stations with these children to help improve listening skills. After what we felt was a sufficient development of listening skills each seven-year-old was placed with an eleven-year-old for 45-60 minutes each day. The eleven-year-olds were to listen to the seven-year-olds read, with the understanding

that when eleven-year-olds felt that students were ready to be tested on the skills for their reading level they were to inform me. The results were amazing. When pupils were tested they ranged from average to superior — none were below average. Most amazing in this group was a child the teacher considered almost a non-reader. By being with an eleven-year-old for one month he completed an entire reader and tested superior on the skills required for his level and was then "most anxious" to get another reader started. Furthermore on a comprehension test he tested highest in the group. At one time he was considered as a candidate for the auxiliary class. The child is slow but made wonderful progress. He wasn't listening in class but learned to with a little help from our listening stations and tapes. In this group I'm sure we saved fourteen pupils a whole year at least through help from our tapes and listening stations. They felt success quickly.

By using tape prepared lessons older pupils knew exactly how to help younger pupils. They learned how to help, to appreciate and understand their problems, to note the importance of minute details and the need of them for clear understanding. I feel that even when these "helping pupils" become adults they will understand children's problems better.

Well prepared taped lessons helped children feel success at all levels. This led to eagerness to do lessons with earphones by themselves thus freeing their teacher to help others. They were learning at the same time to share — share their teachers' time.

We like and enjoy tapes for all levels. We are sure they have helped develop listening skills and have also helped bridge the gaps in learning made by the lack of them.

HILROY FELLOWSHIP PROJECT 11

1. Name and home address of teacher:

   Mr. Robert Palmer,
   10 Shallmar Blvd., Apt. P-5,
   Toronto 349, Ontario.

2. Name and address of school:

   Colonel Gray Senior High School,
   175 Spring Park Road,
   Charlottetown, P.E.I.

3. Review of Project

   (a) Title:

   INTRODUCTION OF A HIGH SCHOOL FILM PROGRAM

   (b) Purpose:

   In the world which confronts the teenager outside the school, film, television, and photography have become major communications of our society. One sometimes wonders why these influences are frequently ignored by current educational practice. The need to sharpen critical responses to the media is therefore one *raison d'être* for the introduction of practical film work in high school. Furthermore, in the secondary schools of Prince Edward Island, minimal emphasis and effort have gone into the planning of activities which encourage creativity. Film making can and must offer students a new creative outlet which hopefully will enable them to develop powers of observation, to express their views of the world, and to give free reign to their fantasies in a primarily visual medium. Also lacking, in the curriculum are opportunities for the development of real teamwork. Film making can provide such an experience, since students must work together with respect for the varied practical aptitudes and artistic talents which are necessary to obtain good results. The film program emphasizes the development of perception and the cultivation of a student's own responses to art and society. In short, the program will combine appreciation, involvement, discussion and criticism, as well as a knowledge of film technique.

(c) Age and other significant characteristics of pupils:

Students who participated in the film program were of high school age (generally 15-17 years), but of varying aptitudes, backgrounds and experiences. The diversity of the group itself, contributed to the effectiveness of the program. Most participants had little or no knowledge of cameras or camera techniques.

(d) Procedures followed (from inception until end of school year):

i. Viewing and Discussion of Film: Viewing films borrowed from the local National Film Board Office, and films created by students at a few high schools in Ontario, film making was approached from both the aesthetic and technical points of view. I have compiled a fairly detailed list of films and written reference materials suitable for study by high school students.

ii. Specific Knowledge of Film Technique: Only basic techniques were dealt with by instruction; detailed written explanations of processes involved in making a film were duplicated and distributed at the appropriate times. These explanations dealt with:

The Idea
Script Writing
Shooting the Film
Special Effects and Problems
Film Editing
Sound Recording

iii. Film Making: Every student enrolled in the film program has written at least one script for a short 3-5 minute film, and in almost all cases has completed the shooting and editing of the film. Sample student film topics range from "The Day In the Life of a Pop Machine", through a "Tour of P.E.I.", to "Looking At Rain Through a Child's Eyes". Towards the end of the school term, many students were attempting to convey an emotion (loneliness, happiness, frustration) or an abstract idea (love, peace, justice) using the medium of film. Several advanced students experimented with differences between art forms by filming the essence of a poem, or short story. For sound, the students used roughly synchronized tape recordings

of music, poetry, or verbal commentary recorded and played on the school tape recorder.

iv. Other Activities: Several other activities of the film group included a screening of all student films at a school-wide assembly, exchanges of films and combined meetings with a newly formed university film club, participation in an "Arts Festival" involving both the showing and discussion of student film, viewing several "classic" American and foreign films (Godard, Bergman, Antonioni represented avant-garde film makers) with basic discussion of elementary techniques, and the beginning of the writing of a script for a full length documentary critique of the school system of Prince Edward Island, involving almost the entire film group.

The film group became an autonomous body, with a chairman, treasurer, and secretary. All projects needed the approval of the entire group, and after completion were again brought before the group for evaluation. Even though I was co-signer of all cheques, almost all funds for film and equipment were allocated by the students themselves. As the year passed, not only was much learned about film, but also about one another as the group gained cohesiveness. In addition to this regular organized student films group, individual students (especially in the upper grades) have indicated interest; as a result, I have "tutored" these students individually, and all completed at least one short film.

(e) Modifications:

The broad purposes which formed the philosophic bases of this film project were not altered, but perhaps were seen in more specific terms as the project unfolded. Modifications which were made are not really of significance to warrant discussion. Perhaps, it might be noted, that less time was spent in instruction, and more in practical film work and evaluation than had been planned. This in part could account for the high level of enthusiasm displayed by students, because of this involvement. As a teacher in a secondary school, I have rarely witnessed the constancy of excitement elsewhere in the curriculum. This change has also been coincident with my own feelings about teaching and learning.

A second modification, or perhaps a better term might be miscalculation, concerning finances. My original estimate of required funds was somewhat low, if one takes into consideration the high level of interests and involvement by students in this project. At all times, careful consideration was given to purchases. There is a definite need for quality equipment, and allowances must be made for the purchase of additional equipment as students gain expertise. One must realize, however, that after the initial outlay for equipment has been made, the program can operate quite successfully in successive years on a very moderate budget. Of course, kinds and quantity of equipment must always reflect the numbers and experience of students involved in the film program.

(f) Source or resource materials:

Equipment Purchased:

Anscomatic Super 8 Movie Cameras ST 99
Eumig Mark 8 Projector
Welbon Tripod
Anscomatic Movie Lights
Editor-Viewer
Splicers (manual — dry and wet)
Lettering Set
Film Splicing Cement and Tapes
Dynachrome Super 8mm Movie Film
Kodachrome Super 8mm Movie Film
Miscellaneous Equipment: Recording Tape, Scissors, Reels, Batteries, etc. . . .)
Two Film Rentals

Total Expenditure: $1,074.64

(g) Evaluation procedures used:

Procedures for evaluation of this project were informal in nature. Two evaluation meetings were held at the conclusion of the school term to assess the organization and activities of the film group throughout the year. A full school assembly at which all films created by the film group were screened also provided subjective evaluation, even though of only the final product. All evaluation reaffirmed the success of the film project — both in terms of process and product.

Several criticisms which were discussed included: the need for more equipment; the exclusivity of the film club leading to "cliquishness" among members; the fact that film has remained entirely an extra-curricular, rather than a curricular subject; the need to complete more projects as a group, instead of concentrating on individual projects; the benefit of commencing film shooting in September, at the beginning of the school year, rather than in January. Comments by other members of the student body, staff and administration were at all times positive.

All seemed to reaffirm a need for the continuation of this program, and perhaps an extension of it, to include as many students as possible. Criticisms were few, and usually concerned faults created by any new project in the process of experimentation. Perhaps, the most valid form of evaluation would be the excitement, and involvement of students. It is based primarily on these criteria that one can evaluate and then term the project a success, far more than the usual utilitarian and more easily measured criteria, such as quantity learned about film and film technique. This is not to say that students did not learn a great deal, but only that the former criteria seemed far more important and relevant to this project as it was carried out within the confines of a conventional secondary school.

4. General Comments

Interest for viewing and making film has spread throughout the high school. Since the program began, the students involved with film have almost doubled in number. In addition to the regular organized film group, many individual students (especially from the upper grades) were tutored by myself. In addition, other schools in the community have indicated interest in starting film programs on an experimental basis themselves. Realizing that film can provide a creative and expressive outlet for students, the Department of Education of P.E.I. has approved a submission made to them by myself concerning the purchase of film equipment for use in schools of the province.

In evaluating the project, I can do little else but review the basic purposes behind the film program. Students at the conclusion of the program did have a basic understanding and appreciation for the various interacting media. Students themselves applauded their activity with film as allowing freedom to create; the results themselves provided

evidence of creative expression. As the group worked to mold and effect plans throughout the year, many different individuals became a rather cohesive unit, protecting the rights of the individual member, yet also effecting progress of the entire film program itself. Finally, students did learn about basic camera and film technique, more through experimentation than through instruction. Evaluation of a program is often difficult if one has only very general criteria with which to evaluate the program. Such is my dilemma, although I can without question affirm its success. I could easily fill many pages with detailed criticisms and proposals, but somehow such does not seem to be warranted by the requirements for this report. Nevertheless, I would be very willing to forward additional details about any phase of this film project, my personal objectives, criticisms, and suggestions, or proposed further plans.

I conclude this final report with most sincere appreciation to the Hilroy Foundation and the Canadian Teachers' Federation for honouring me with the sponsorship of my project. It is rare that a young teacher like myself is given such encouragement for experimentation. It was with great excitement that I submitted my proposal for consideration, and it is with even greater excitement that I conclude this final report. Education must begin to shift from purely instruction to discovery, to exploration and probing.

HILROY FELLOWSHIP PROJECT 12

1. Name and home address of teacher:

   William G. Dixon,
   P.O. Box 105,
   Baie Verte, Newfoundland.

2. Name and address of school:

   Integrated Elementary School,
   P.O. Box 105,
   Baie Verte, Newfoundland.

3. Review of Project

   (a) Title:

   EDUCATIONAL DRAMA AND SPOKEN ENGLISH

   (b) Purpose:

   The purpose of this program, is to introduce the aims and philosophy of Educational Drama and Spoken English to teachers, develop programs with them, and have some degree of implementation.

   In my "lecture" series to the participating teachers, I listed four aims of the program as follows:

   i. An introduction to Educational Drama and Spoken English.

   ii. Hopefully motivate some of them for further work next year in this field.

   iii. Encourage some of the teachers to take university training in this work.

   iv. Implementation, in a small way, of some aspects of the program into the classrooms. At least get your feet wet.

   Age and other significant characteristics of pupils:

   i. The pupils range in age from 6-12 years.

   ii. The pupils range in academic ability from very low to high, and all the variety of possibilities in between.

   iii. They have been subjected to a rather traditional schooling.

iv. They are normal students in academic variations and expectations.

(d) Procedures followed (from inception until end of school year):

i. Met with principals in Seal Cove and LaScie and discussed feasibility of and procedures to be followed.

ii. Met with teachers — gave brief history of program, outlined tentative plans, discussed feasibility and participation, agreed to try program.

iii. Interviewed a number of pupils (See section g.)

iv. Discussed, rather thoroughly, the aims and objectives of Educational Drama and Spoken English. Through discussion and participatory demonstrations, emphasized various aspects of the program.

v. Drew up plans for class participation in graduated sequence. Visited periodically for observation and discussion with teachers.

vi. Met with teachers (as a group) on two or three occasions for discussion and evaluation.

(e) Modifications:

i. To purpose — none

ii. To plan — Was unable to do as much as planned because of lack of consultant services, road and weather conditions, lateness of beginning of implementation. Evaluation procedures forced to be modified as a result of preceding.

(f) Source or resource materials:

i. Memorial University bookstore — approximately $70.00.

ii. Department of Education, Nfld. — Free

iii. Personal books and pamphlets — Free

(g) Evaluation procedures used:

i. Interviewed pupils at beginning of program and at the end. Without exception, the pupils enjoyed doing the Drama, asked the teachers for more, and want it to continue.

ii. Personal observation and discussion with teachers. Where an honest effort was being given, teachers were enthused about the program and thought it had great value.

iii. Evaluation notes from participating teachers, and Professor Grace Layman — (our pioneer in this field). These notes follow the section on "General Comments".

4. General Comments

i. The pupils' response was as was expected — the younger the pupil, the fewer the inhibitions, the higher the degree of participation. Thus, the need for a program such as Educational Drama and Spoken English. As the program was used, more and more pupils began taking part. Some did not participate at all, but in conversation with me, indicated they wanted to, and would have, if given more time.

ii. There were a couple of disappointments — some of the teachers gave lip service only, — insufficient time to really implement the program.

May I be allowed a few personal remarks about the Hilroy program.

First, I want to express my sincere thanks to Mr. R. C. Hill for instituting such a program. Maybe this is the beginning of something big, and others will follow his example.

Secondly, to the Canadian Teachers' Federation for having the interest and farsightedness for administrating the fund. I say congratulations and thanks.

Third, I think it would be much more beneficial if the applications could be available in the Spring, and notification of acceptance made available in June. This would give the applicant an opportunity to plan during the summer, begin implementation in September or October, and have the whole school year for carrying out his program. In my case, for instance, I began in February. From then to the last of May, I lost four Mondays due to bad weather and road conditions, and a holiday. This makes the job difficult. Nevertheless, I hope to continue the program in some way next year.

Again, thank you, and continued good luck, personally and professionally.

APPENDIX

COMMENTS

EDUCATIONAL DRAMA AND SPOKEN ENGLISH PROGRAMME

The Educational Drama and Spoken English programme that you have introduced into the several schools in the Baie Verte area shows a great deal of promise. In the quick observation that I was able to make during my visit there with you on June 6, I noted several things.

1. The teachers had grasped the basic ideas and seemed to know what the aims of Educational Drama were.
2. They were enthusiastic and felt that it provided the opportunity for the self-expression so necessary for all-age children.
3. The children, according to the teachers, enjoyed the classes and when deprived, were not hesitant to ask for the drama lesson. Some of them looked upon it as a 'fun period', but that was being changed to real interest, as the programme developed and the novelty wore off.
4. Most of the children were beginning to become involved in concentration and had advanced beyond the stage of 'copying'. This indicated to me a development of individuality.
5. For some reason, which I didn't discover, there was a reluctance to move the desks from the traditional rigid rows. This, I feel, will come when they see a greater need for space and free movement.
6. The teachers seemed to be following your directions 'to the letter', and were not able to adapt the exercises to suit the various situations e.g. the Grades VI and VII children, having a greater degree of inhibitions, might begin within the security of their desks rather than be exposed in the centre of the floor. Also, their physical maturity, demands a greater precision of movement, so sense expression may be introduced earlier than with the younger children.

It is a great satisfaction to see this innovation in the smaller schools in Newfoundland. It has not been easy, I'm sure, to break down the traditional views and to bring in the flexibility that Educational Drama demands. You have been able, even in the short time, to pass on, not only your knowledge of the subject, but a little of your conviction and enthusiasm.

The teacher's lack of training is evident, but I hope some of them can do at least a summer course, and therefore become better prepared to carry

on the programme next year. The seed has been sown, and what it needs now is nurturing for further development. Most of the teachers I talked to want to carry on next year. I hope you will be able to give further help and guidance in their implementation of Educational Drama in their school curriculum.

I think the distance and difficult transportation are a great disadvantage. The teachers need a lot of help and frequent visitations. They may benefit from seeing each other work with their classes, and/or meet and discuss their various approaches.

The key word is teacher education, where they can, themselves, become involved in drama activities, and in a thorough study of the philosophy behind them.

Congratulations on your success thus far, and best wishes for future work in this important aspect of education.

• • •

I first experimented with drama in the grade 7 class this early Spring and although I'm very much interested and hold with its aims and objectives, I was not too successful in getting the class to participate.

I tried getting them away from their seats. However, since this was all new to them they seemed very self-conscious and insecure. I realize now that it was probably a better idea if I had first experimented with them in the security of their desks.

• • •

I began Educational Drama with thirty children whose ages range from eight to ten and the first morning that I tried this project, these thirty children became very interested instantly. Their interest gave me hope that Educational Drama was going to work and it did.

This wonderful project has helped these children to have self-confidence, be unaware of an audience, to use their imagination and to overcome their shyness. To make a long story short, I think Educational Drama is very helpful in learning, and it makes learning fun.

• • •

Unlike the higher grades my class of Grade Ones were eager to get out of their seats and move around. With the exception of two or three waiting for someone else to start and do something first, I had 100% participating.

I feel that if Educational Drama is started in the lower grades and continued up through the grades it will accomplish its aim — to have more Effective Oral Communication in the classroom.

• • •

Educational Drama and Spoken English was introduced to my kindergarten class in March. It wasn't entirely new. Children were doing finger plays, acting songs, pantomiming and acting the roles of story characters etc., introduced to them, but usually the precocious child participated more. Since using Creative Dramatics the whole group is involved. Even the timid, who at first imitated his friends, became aware of the project being improvised. Their imaginations are now aroused and they are actively happy while playing. There are still errors. Some child may try to pick blueberries off the floor. They become alert when their "Spot" is mentioned. Relaxation is fun, discussion seems to be a chore but the evaluation and follow up later is enjoyed.

There is still much to be done. Many children find it difficult to express their feelings. Here a lot of praise, encouragement and careful planning is needed. I feel confident that Creative Dramatics will help to develop confidence in self-expression and I am happy to be participating in the program.

• • •

Since I started late, I have had time only to reach the "movement with limitations stage". However, the children have enjoyed it greatly and eagerly look forward to it. Most have participated. Of course, some of the usual problems have come up like "everyone doing the same thing" and frequently they have to be reminded not to talk but still, I would say it has been successful and I would like to continue with it next term.

• • •

I have seen that pupils are lacking in self-expression and originality in written language. I feel that Educational Drama and Spoken English, if used wisely, could be a means of "bringing them out of their shells", since they would be given more practice in intense concentration and imagination.

HILROY FELLOWSHIP PROJECT 13

1. Name and home address of teacher:

   Donald A. Kelly,
   P.O. Box 3125,
   Whitehorse, Yukon.

2. Name and address of school:

   F. H. Collins Secondary School,
   P.O. Box 2703,
   Whitehorse, Yukon.

3. Review of Project

   (a) Title:

   NORTHERN STUDIES #1 (EARTH AND SPACE SCIENCE)

   (b) Purpose:

   Northern Studies #1 was developed to instruct northern students in a specialized subject area which has previously been unavailable in our Territory. This science course emphasizes local geology and mining.

   (c) Age and other significant characteristics of pupils:

   First Semester (September 1969-January 1970) — Students were average to top academic students from the grade 9 level. Their ages ranged from 13-15 years.

   Second Semester (February 1970-June 1970) — Students were low academic (non-achievers) from the grade 10 level. Their ages ranged from 15-19 years.

   (d) Procedures followed (from inception until end of school year):

   Field trips (Yukon, British Columbia, and Alaska); geological field school (Chilkoot Trail); northwestern Canadian mine project; films — 2 periods each week; text assignments from "Modern Earth Science" 1969, Ramsey, Burckley, Phillips, and Waterpaugh and "Elementary Geology — applied to prospecting", John Walker, geological exploration procedures, types of mining; space exploration and astronomy; oceanography; land-forms; streamtable; soil profiles and monoliths; introductory structural geology (for field school); "poster notes"; classroom library; science writing labs; rock and mineral identification; glaciation; concentrating and refining

of ores; refining of oil; commercial metals and non-metals; introduction to fossils; weathering and erosion; principles of photogrammetry.

(e) Modifications:

The second semester class was unable to master the quantity of material which we had investigated during the first semester. Essentially, it meant leaving out most of our space science material. We were able to establish a geological field school during the second semester. I would prefer to have two field schools associated with the course. One school would concern itself with the mapping of the rocks and minerals of a region as well as the recording of fault trends, fractures, joint patterns, lineations, etc., similar to what we attempted this year in the Coast Range Mountains along the Chilkoot Trail. The second field camp would be conducted from our school and would concern itself with exploration geology. On an appropriate plot of land, students could carry out line-cutting and basic surveying, mapping of outcrop, geophysical surveying, soil sampling, packsack drilling, logging of drill core, and property assessment over a prolonged period of time.

(f) Source of resource materials:

Streamtable — 11' by 3' by 2-1/2'. The table was constructed by myself in the school shop with school materials. The recirculating pump and wave agitator cost an additional $40 and are available from Sargent-Welch Scientific Company, 900 West Seventh Avenue, Vancouver, British Columbia.

Classroom library — This library contains several hundreds of dollars worth of personal and requisitioned texts and paperbacks dealing with Earth and Space Science.

Large G.S.C. rock and mineral kits — Now discontinued, these kits were obtained for transportation costs from the Geological Survey of Canada. We also have a variety of smaller rock and mineral kits obtained through Sargent-Welch.

Stereoscope and stereoscope manuals — (landforms and fossils) were obtained with Fellowship funds from: Denoyer-Geppert, Times Mirror, 5235 Ravenswood Avenue, Chicago, Illinois 60640.

Brunton Compasses — were borrowed from the Resident Geologist, Dr. Doug Craig, who has also been a guest speaker for our Northern Studies Course.

Handlenses — at $1.50 each, were requisitioned through Sargent-Welch. While we were unable to obtain them (something called priorities), geological hammers and Silva compasses are a must for the course.

Moon Map — $4.95 Sargent-Welch

Earth and Space Science skill cards — $4.40. This interesting arrangement of experiments is available from: Charles E. Merrill Canada Ltd., A. Bell and Howell Company, 125 Norfinch Drive, Downsview, Ontario.

"Modern Earth Science" — 1969, Ramsey, Burckley, Phillips and Waterpaugh available from: Holt, Rinehart & Winston, Inc., Toronto, Canada (at approximately $7.75 each).

"Elementary Geology — Applied to Prospecting" — by John Walker and published by the Queen's Printer, Victoria, British Columbia, at $1.00 each.

Mine reports, brochures, maps, samples, photos, etc., were obtained from the Public Relations departments of the mines in question.

(g) Evaluation:

Evaluation of the students was done on a participation basis. The final letter grade represented the percentage of the number of topics completed over the number of topics assigned. Thus the final letter grade reflects the work done throughout the course on a continuous progress basis. Tests and a final examination were used in each semester. These results were included with the "topics completed" from above, i.e., 50% on a test indicated one half of a completed topic. This method worked quite well with my second semester class. They found it hard to believe that they could receive full credit for something by simply doing it. They were used to trying quite honestly at their work, not doing really that well at it, and consequently, not getting a very good mark for it. So then they would stop trying. But they started their Northern Studies course with great vigor and, I gathered, with the intention of making the honor roll. While a number of them maintained this attitude through the semester, many others

became influenced by environmental factors not beyond my sympathies, but certainly beyond my capacity to change.

Girls, interestingly enough, did not excel in the course. I feel the reason for this lies in the fact that very few girls took the course and they tended to feel somewhat out of place. During the first semester, class enrollment included three girls and ten boys. The second semester was worse. By the end of the school year half of original enrollment in the class had left school. The three girls were placed with that class because of time table restraints and one of those girls entered halfway through the semester.

4. General Comments

I feel the course has been very successful and has received better than average *response* from the students. Grade ten students were very grateful for our fieldtrips, and in particular for the field school. The first semester class now forms the backbone of our Model Rocketry Club, Geology Club, Astronomy Club, and Chess Club.

5. Geological Field School

The Chilkoot Trail — The very name radiates a richness of history that few other regions can boast. But our purpose as a science class is not along the lines of historical appreciation. Once high in the Coast Range Mountains, we hope to examine, sample, and measure granitic and granodioritic rocks previously untouched by man. Essentially the Chilkoot Trail will become a 30 mile long geological traverse at which time we will develop and practice skills necessary in the field of geological exploration. We aim to record fault trends, locate metallic mineral occurrences and determine rock compositions. To develop a background involving this region, we have acquired the following publications for study:

(a) Geological Map 19 — 1957
Bennett — Cassiar District, B.C.

(b) Topographic Map 104M — Skagway

(c) The Chilkoot Trail — A Guide to the Goldrush
Division of Lands, State of Alaska, 1969

(d) G.S.C. Paper 60-24
Tectonic Framework of Southern Yukon and Northwestern British Columbia

(e) Geological Survey of Canada
Geology of Canada

(f) One Man's Gold Rush — by Murray Morgan

Eleven students, under the supervision of one teacher and another adult assistant, will participate in the trip.

The following is a list of materials which the group has mutually agreed upon taking over the pass.

Per person	one sleeping bag
	heavy hiking boots
	one pair of reserve socks
	one packsack or packboard
	towel, facecloth, soap
	toothbrush and toothpaste
	toilet paper
	handlens
	plate, knife, fork, spoon, cup
	canned food per individual (4 days)
	beans, spaghetti, meats, etc.
Optional per person	gloves, water proof gloves
	"Off" mosquito repellent
	rainsuit, cameras
	hammer
	eggs, bread, cookies
Per group	first aid kit
	rifle, bullets
	tarp, 3 axes
	tape recorder
	radio, telescope
	matches, marking tape, compass
	50' rope
	10' x 18' polyethylene
	pancake batter, powdered milk
	bacon, sugar, salt and pepper
	2 cans of butter
	tea, coffee, coffee-mate
	3 tea billies
	packages of Lipton Soup (2 dozen)

The trip will progress as follows: Wednesday morning, the 10F Class will meet at the F. H. Collins Secondary School at 8:00 a.m. We will

then proceed by car and panel truck to Carcross where we will board the Whitepass and Yukon Route train at 10:10 a.m. From there, we will travel to Bennett in time for dinner. The trip will continue to Skagway, where we should arrive late in the afternoon. Mr. Jim Davis, Superintendent of the Skagway School will meet us and direct us to our various billets or the school. We will meet at a predetermined location at 6:00 a.m. Thursday morning. From there we will drive to Dyea (10 miles from Skagway) where the walk will begin. Following the maps outlined in "The Chilkoot Trail — A Guide to the Goldrush", we will hike north to Canyon City. After a lunch break we will continue up the Taiya River Valley to Sheep Camp where we will stay for the night in a number of restored cabins. The next day we will walk through the Chilkoot pass area and spend some time examining local rock types. Once on the north side of the pass we will proceed down a gradual gradient along the east side of Crater Lake, past Deep Lake and on to Lake Lindeman. The second night will be spent at Lindeman City in an abandoned cabin. Early next morning, we will hike to Bennett and catch the noon hour express to Carcross. We expect to be back in Whitehorse before 5:00 p.m. on Saturday. The walking distance between Dyea and Sheep Camp is 13 miles. The climb over that distance is 1,000 feet. The walking distance between Sheep Camp and Lindeman City is 13 miles. Over this distance, we will have climbed to 3,739 feet, then back down to 2,300 feet. The distance from Lindeman City to Bennett is 5 miles along flat ground.

Precautions have been taken along legal aspects by requiring signed statements by the students' parents or guardians freeing the supervisors of F. H. Collins Secondary School and the Yukon Department of Education from any liabilities which might be incurred while on the trip. The students will be taking this trip at their own risk. A rifle will be carried as a safety precaution against bears and other wildlife. The R.C.M.P. have been notified as to how long we will be gone on our trip and when we are expected back. We are grateful to the Department of Forestry, the Whitepass and Yukon Route, and the office of the Resident Geologist for having helped to make this first F. H. Collins Geology Field Camp a reality.